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Cooperative
**ECONOMIC INSECT
REPORT**

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPER populations increasing in several States; control programs underway or planned in some instances. (pp. 701-702). EUROPEAN CORN BORER larval infestations becoming more prevalent in Midwestern States; reaching economic levels in Iowa, Missouri and Nebraska. (pp. 703, 732). ARMYWORM outbreak continues in Ohio and Indiana, and injury appearing in 3 Michigan counties. (pp. 703-704). CORN EARWORM larvae present in Delaware and Maryland, and adults trapped in Wisconsin and Washington. (p. 704). A CERAMBYCID (*Derobrachus brevicollis*) damaging Bahia grass in Alabama; growers alerted. (p. 705). CORN ROOTWORMS damaging corn in Iowa. (p. 732).

ALFALFA WEEVIL populations high in extreme west central area of South Dakota; economic damage reported for first time in Albany County, New York; and resistance to recommended chemicals appears to be evident in nearly all areas of Wyoming. (pp. 706-707). LYGUS BUGS damaged alfalfa seed fields in Washington and Nevada, and controls applied in Yuma County, Arizona. MEADOW SPITTLEBUG light to heavy throughout Ohio and usual or more than usual injury reported in northern Lower Peninsula of Michigan. (p. 708).

MEDITERRANEAN FRUIT FLY found in Florida for fourth time; collected at Miami, Dade County. (p. 710). CITRUS MITES increasing in Florida, and GLOVER SCALE and CHAFF SCALE much above average levels in Florida citrus. (p. 710). PLUM CURCULIO egg laying underway in Ohio and Michigan. (p. 712).

PEA APHID required extensive treatments in some Wisconsin pea fields. MEXICAN BEAN BEETLE continues active; eggs found June 20 in Massachusetts and newly emerged adults found in Kansas. (p. 715). SPINACH LEAF MINER damage reported in the Northeast, Michigan and Washington. (p. 716).

BOLL WEEVIL infestations continue relatively light; highest percent punctured squares reported in South Carolina. BOLLWORM complex causing considerable damage to cotton in central and southern half of Texas, and feeding evident in several other States. (p. 718). GARDEN WEBWORM damaging cotton in Texas and Oklahoma. (p. 719).

Damage by second-brood TIP MOTHS may appear more spectacular than normal in Arkansas. (p. 721). Defoliation by a SAWFLY (*Neodiprion taedae linearis*) greater than any year since 1947 in Arkansas. EUROPEAN PINE SAWFLY (*N. sertifer*) caused heavy defoliation in several areas of Michigan, and Scotch pine growers applied treatments in Erie County, Pennsylvania. (pp. 722, 733). ELM LEAF BEETLE continues to cause widespread defoliation in Oklahoma, and damage reported in number of other States. (p. 722). SATIN MOTH larvae heavy on silver poplars in Alturas, Modoc County, California; first record of larval infestation in State. (p. 723). BAGWORM feeding as far north as Indiana, Ohio and New Jersey. (p. 724). ROSE CHAFER activity noticeable in the Northeast, and in Ohio, Michigan and Wisconsin; JAPANESE BEETLE adults increasing on roses and other host plants in southern Maryland. (p. 725).

MOSQUITOES continue a problem in various areas; extremely abundant sometimes. (pp. 727-728). HORN FLY continues general increase; controls being applied. FACE FLY also increasing in certain areas, but counts generally light. TABANIDS troublesome in some areas to man and animals. (pp. 729, 732, 733). LARDER BEETLE relatively abundant this year in Iowa and Ohio. (pp. 730, 732).

(Continued on following page)

DETECTION

CURRENT STEM GIRDLER (*Janus integer*) reported for first time in Washington (p. 713), and a WHITEFLY (*Aleuroplatus gelatinosus*) reported new to Utah (p. 726). ALFALFA WEEVIL (*Hypera postica*) found in 2 new counties: St. Francis, Arkansas, and Mercer, Pennsylvania. (pp. 706, 733).

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 728).

List of Some of the More Important Pests for 1962. (p. 736).

Notes on Sweep Nets (Survey Methods). (pp. 737-738).

CORRECTIONS and ADDITIONAL NOTES

See pages 732 and 733.

Reports in this issue are for week ending June 21, unless otherwise indicated.

WEATHER OF THE WEEK ENDING JUNE 24

At the beginning of the week, a cold front extending from Texas to the Carolinas edged slowly southward. High pressure, sunny skies, and moderately warm temperatures prevailed north of the front. Showers and thunderstorms soaked the Gulf strip and the South Atlantic coast south of the front. A few 24-hour totals exceeded 5 inches. Under sunny skies, temperatures in the sandy Southwest soared to 110° or higher. Blythe, California, registered 112° on Monday. As vigorous thundershowers continued along the Gulf, cool, dry air began pressing southward into the Northern Prairies. Moist air flowed northward south of this front. Cloudiness increased, followed by drizzle and light showers. By midweek, numerous thunderstorms were occurring over the eastern half of the Nation. One of the heaviest thunderstorms dumped about 8 inches of rain at Sugartown, Louisiana, Wednesday afternoon and evening. A few isolated thunderstorms occurred over the western mountains. By daybreak Friday, the leading edge of the cold air was pushing into the northern portions of the Gulf States and the Middle Atlantic Coastal Plain. Numerous record low temperatures were reported in the North Central Interior, and frost occurred in a few scattered areas as far south as northern Indiana and Illinois. Heavy thundershowers occurred in the warm, humid air in the lower Mississippi Valley region and along the Gulf coast. Galveston, Texas, received nearly 5 inches of rain Friday morning. Afternoon temperatures were mostly in the 60's and lower 70's from the Great Lakes region and Ohio Valley eastward. Another cool spot was the Northwest where a maritime air mass kept daytime temperatures in the 50's and 60's inland to Idaho and Montana. Thunderstorms broke out in Montana, Wyoming and Colorado. One storm at Miles City, Montana, produced hail and was accompanied by winds approaching 60 m.p.h. Local flooding occurred in central and northern Wyoming, causing several million dollars damage, with Lander being especially hard hit.

At the end of the period, hot, humid air with thunderstorms continued in the Deep South. Cool temperatures, clear skies, early morning temperatures in the 30's and 40's, and afternoon temperatures in the 60's and 70's persisted in the Northeast. In the southwestern deserts, maximum temperatures shot to 90° to 100° or
(Continued on page 733)

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - NEVADA - Nymphs, mostly first to third instar but up to fifth instar, infesting several thousand acres of crested wheatgrass and rangeland in Orovada and Paradise Valley areas, Humboldt County; counts as high as 40-60 per square yard in heavily concentrated, localized areas. Counts averaged 12-20 per square yard over much of a 15-20 mile strip along lower west slopes of Santa Rosa Mountains in Orovada area. Counts generally lower and nymphs smaller in Paradise Valley. Dominant species Aulocara elliotti, Camnula pellucida, Melanoplus spp. and Oedaleonotus enigma. (Coop. Rpt.). UTAH - In Iron County, grasshopper control in progress on 6,000 acres in Paragonah-Parowan area, and another 10,000 acres around Kanarraville; much cropland around Newcastle may need control. In Washington County, about 6,000 acres around Summit is moderate to severe and 20,000 acres around New Harmony have severe outbreaks. In San Juan County, situation east and south of Monticello looks less severe than few weeks ago, and 2,000 acres east of La Sal need control. In Sanpete County, 6,000 acres north of highway and east of Gunnison have a severe range outbreak with an area of 7,000 to 8,000 acres of rangeland, plus cropland, and also serious in area northwest of Mayfield. In Grand County, 5,000 acres of largely range in Castleton area and 3,000 acres on Wilson Mesa above Moab need control. Numerous enough to cause damage to some alfalfa in Vernal and Roosevelt areas of Uintah Basin. Melanoplus spp. 10 percent winged in Flaming Gorge area, Dagget County; light except in local areas. Grasshopper outbreak in Sanpete County includes 70,000 acres of rangeland and at least 5,000 acres of farmland north of Gunnison to north of Fayette and to Salina. (Thornley, Knowlton; June 17-22). COLORADO - Grasshoppers vary considerably in number on grassland in Weld, Larimer and Boulder Counties. In northern Weld and Larimer Counties, populations 1-2 per square yard. In southern area of Larimer County and in Boulder County, east of foothills, counts 1-4 per square yard. Newspapers reported grasshoppers present in southwest Larimer County and northwest Boulder County at levels of 25 per square yard. (Jenkins). NORTH DAKOTA - Nymphal survey on rangeland in McKenzie, Golden Valley, Billings and Slope Counties showed 1-20 (average 6) per square yard. In Cartwright area, McKenzie County, average 12 per square yard. Development of Aulocara elliotti and Melanoplus sanguinipes first through fourth instar; Ageneotettix deorum first through third instar; 60 percent of 'hoppers in second instar. In cropland in Dunn, McKenzie and Slope Counties, marginal counts ranged 1-20 (average 4) per square yard; field counts 1-12 (average 2) per square yard. Nymphal development of M. bivittatus first through fifth instar and M. packardii first through fourth instar. Development of M. sanguinipes first through third instar. Most 'hoppers in second and third instars. (Brandvik). Survey in Nelson, Foster, Eddy, Griggs and Steele Counties showed negative to trace numbers to an occasional count of 3-4 per square yard. Benson County had trace to 10 per square yard in Esmond and Maddock areas. Ramsey County, north of Webster, had 10-15 per square yard. Northern half of Sheridan County had 40-50 per square yard. Dominant species M. bivittatus, M. sanguinipes and M. packardii. (Olson). Counts in Pembina, Walsh, Grand Forks, Cavalier and Traill Counties averaged 4 per square yard in field margins and less than one in fields. M. bivittatus and M. sanguinipes species involved; most in second instar. In Rolette County, counts 32 (fields) and 27 (margins) per square yard in alfalfa and soil bank land; M. bivittatus and M. sanguinipes species involved. Counts 10 per square yard in pastures and margins in Towner County; Camnula pellucida species observed. Development of M. sanguinipes first through third instar, M. bivittatus and C. pellucida mostly first and second instar. (Wilson).

SOUTH DAKOTA - Grasshopper numbers generally low in cropland and rangeland, with some localized exceptions. Development ranges from first to fifth instar, with M. bivittatus, M. sanguinipes, M. differentialis dominant; few M. femurrubrum also appearing. Counts in central and western area cropland usually 1-5 per square yard, with an occasional marginal count of 30 per square yard. In localized area of western Mellette County, numbers were as high as 60 per 10 sweeps throughout field of alfalfa. In range areas of Custer, Dewey, Fall River, Shannon and Ziebach Counties, counts low with localized high

counts. Localized counts in Custer County showed 10-15 nymphs per square yard in Pilger Mountain area and 15-35 per square yard in Elk Mountain area. (Burge, Zimmerman, Hintz). During week June 7-14, areas of potential range infestation surveyed with following results: Harding County (short pine area) averaged 3 per square yard; Moreau River area, 2-4 per square yard; northwest Haakan County, 5 per square yard; Pine Ridge area of Shannon County, 2-6 per square yard; Elk Mountain area of Custer County, 10-30 per square yard (potential "hot spot"). Species in these areas Ageneotettix deorum, M. sanguinipes, M. confusus and several species which overwinter as nymphs. The latter and M. confusus mostly adults. In crop areas of western and central sections of State, some counts ranged up to 20 per square yard in field margins, with 10 per square yard in fields, but counts not generally this high. (Burge, Zimmerman). NEBRASKA - M. sanguinipes (third to fourth instar), M. bivittatus (third to fifth instar), M. differentialis (second to third instar) and M. femurrubrum (first to second instar) counts approximately 80 per square yard in hatching areas of northern Burt, Cedar and Dixon Counties. Fields of oats in Burt County had uniform population throughout field. (Bell). M. differentialis (second to third instar) and M. femurrubrum (first to second instar) averaged approximately 12 per square yard in Cuming, Dodge and Saunders County field margins. Infestations evenly distributed through soybean fields in Saunders County. (Roselle, Bergman). KANSAS - Counts in field margins in northeast and east central areas ranged 0-10 per square yard; primarily M. sanguinipes and M. femurrubrum. Adult M. sanguinipes noted; M. femurrubrum ranged from second to fourth instar. (Peters). OKLAHOMA - Nymphal surveys continued in Beaver, Ellis, Harper, Major, Woods and Woodward Counties. In Woodward County, 40 rangeland checks showed counts of 3-20 per square yard. Dominant species Ageneotettix deorum, Phlibostroma quadrimaculatum, Amphitornus coloradus and Mermiria maculipennis. Counts ranged 1-8 per square yard in Beaver, Ellis, Harper, Major and Woods Counties with dominant species Melanoplus bivittatus, M. packardii. (Okla. Coop. Sur.). TEXAS - Complaints of damage by several species of grasshoppers to cultivated crops and pastureland being received from coastal bend, central and north central areas. (Tex. Coop. Rpt.).

MISSOURI - Moderate to high populations of Melanoplus spp. observed in spots throughout State; counts in central and northeast ranged 5-35 per square yard in field margins and 2-14 per square yard in infested pastures and legumes. (Munson, Thomas, Wood). IOWA - Newly hatched M. differentialis ranged 5-10 per square yard in Harrison County and 40-50 per square yard in Washington County. Also feeding on soybean leaves at Ames, Story County. (Iowa Ins. Inf., June 17). WISCONSIN - Populations of first and second-instar M. femurrubrum and first, second and third-instar M. differentialis rising rapidly in second growth and sparse first-growth alfalfa in Marquette County, and in Wisconsin River flats of Dane, Sauk and Richland Counties; counts 15-60 per square yard, with M. differentialis dominant. Oat fields had 30 and 5 per square yard locally in Marquette and Green Counties, respectively. M. femurrubrum principal species in portions of Green and Walworth Counties; 40-60 per sweep. Some feeding injury becoming evident in few such fields. Hatching just begun in heavier soiled areas of Iowa, Lafayette and Grant Counties; counts 1-10 per square yard. Some treatments used in Oconto County. (Wis. Ins. Sur.). ILLINOIS - Melanoplus spp. varied 40-760 (average 229) per 100 sweeps in grassy roadsides in central, west and northwest districts. Most first instars with few larger ones and 1 adult observed. (Ill. Ins. Rpt.). ALABAMA - Romalea microptera heavy on grass in Chambers County. (Stewart). Several species appearing in greater numbers on crops in general in Escambia, Conecuh and Monroe Counties. (Lemons).

EUROPEAN CORN BORER (Ostrinia nubilalis)- NORTH DAKOTA - Pupation 80 percent in Richland and Sargent Counties; emergence 15 percent; no egg masses seen. (N.D. Ins. Sur.). SOUTH DAKOTA - Preliminary egg survey in southeast showed 1-16 egg masses per 25 plants. Height of corn (leaves extended) averaged 27 inches in southern area. (Hintz). NEBRASKA - Infestation ranged 20-75 percent in east and northeast; larvae, first to third stages, feeding in plant whorl. (Bergman). KANSAS - Few moths and eggs present in Riley County, northeast; first and second instar dominant. Few third instars entering stalks of sweet corn and early field corn. In Jefferson, Douglas, Brown and Republic Counties, populations low. Infestations only in few of earliest fields of corn; 5-70 percent of plants infested. Development ranged from eggs to third-stage larvae. (Burkhardt). Less than one percent of plants infested in Wyandotte County; only earliest fields infested. (Peters). MISSOURI - Populations and damage approaching economic levels in central and northeast areas; leaf feeding damage in susceptible fields in northeast evident on 10-65 percent of plants. Infested plants had 0-8 larvae per plant. Very few egg masses observed. (Munson, Thomas, Wood). IOWA - Egg masses per 100 plants and percent leaf feeding reported as follows: Crawford County, 15-20 inch corn, 40 egg masses and 20 percent feeding; Monona County, 30-inch corn, 80-100 egg masses and 20-30 percent feeding; Harrison County (June 13), 30 and 36-inch corn being treated, 50-60 egg masses and 20-40 percent feeding; Ames, Story County, 25-30 inch corn, 100 egg masses and 30 percent feeding; Knoxville, Marion County, 150 egg masses and 60 percent feeding (treated June 13). (Iowa. Ins. Inf., June 17). WISCONSIN - Leaf feeding becoming noticeable on larger field corn in southern counties. Few egg masses still being found. Highest percent of plants infested was 8. (Wis. Ins. Sur.). ILLINOIS - Egg masses per 100 plants averaged 87.7 in northwest, 32 in northeast, 107.3 in west, 60 in central and 34.4 in east. Percent plants infested averaged 42.7 in northwest, 31 in northeast, 41.8 in west, 27.8 in central and 32.2 in east. Larvae per infested plant averaged 4 in northwest, 2.7 in northeast, 4.9 in west, 1.7 in central and 2 in east. Majority of larvae in first stage. (Ill. Ins. Rpt.). INDIANA - Eggs hatched and larvae actively feeding in whorls of corn across central area. Infestations range 4-60 percent. Leaf feeding in southern area about 10 percent in early corn. (Everly, Matthew). MICHIGAN - Egg masses common and larval feeding evident on corn foliage in southwestern area. (Tatter, Carpenter). NEW YORK - Egg masses fairly easy to find on sweet corn in Hudson Valley; several per 100 plants. Hatching noted June 10. (N.Y. Wkly. Rpt., June 17). MARYLAND - Light to moderate larval infestations in late field and sweet corn on Eastern Shore; 20 percent highest recorded. Egg masses found on sweet corn at Fairland, Montgomery County. (U. Md., Ent. Dept.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSISSIPPI - Light on corn in Marshall County. (Ouzts). OKLAHOMA - Approximately 50 percent of stalks infested in cornfield in Washita County; occasional lodging of stalks noted. (Okla. Coop. Sur.).

STALK BORER (Papaipema nebris) - MARYLAND - Infesting marginal areas of field corn in sections of Frederick and Worcester Counties. (U. Md., Ent. Dept.). INDIANA - Reported in various parts of State. Damage reported to outside 2-3 rows of corn. (Gould). KANSAS - Damaging corn in field margins in 2 fields in southwestern Riley County. (Burkhardt).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Field of corn (200 acres) in Cleburne County being heavily damaged by this species in combination with 2 unidentified flea beetles, mixed species of thrips and southern cornstalk borer (Diatraea crambidoides). (Ventress).

ARMYWORM (Pseudaletia unipuncta) - OHIO - Infestations occurring over western half of State. Distribution ranges from Ottawa County (northern area) to Warren County (southern area). (Holdsworth). Severe in 2 fields of wheat in Ottawa County; all sizes of larvae present. Several spots in fields stripped. (Ruff, June 12). Found infesting small grains and corn near Eaton, Preble County. (Wadlington, June 14). Larvae in wheat migrating to corn at Wilmington, Clinton County. (Baxter, June 17). Several fields of wheat near Troy, Miami County,

infested. (Arnold, June 17). Migrating from wheat to corn at Lebanon, Warren County. (Ross, June 17). Larvae on move from wheat into corn at South Charleston, Clark County. (Holdsworth, June 17). INDIANA - Continues damaging in localized parts of central and northern counties. Feeding completed in southern counties. Controls underway in northwest. (Matthew). MICHIGAN - Larvae reported causing some injury in Berrien, Allegan and Ottawa Counties. (Janes, Carpenter, Machiele). DELAWARE - Larvae feeding on corn in eastern Kent County; 32 adults collected in blacklight trap on June 17-18 in Sussex County. (Burbutis). MARYLAND - Severe in large planting of sweet corn near Price, Caroline County. (U. Md., Ent. Dept.)

CORN EARWORM (Heliothis zea) - MARYLAND - Light on field corn in whorl stage on lower Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - First young larvae of season present on alfalfa in area of New Castle County; 5 adults collected in blacklight trap in Sussex County June 17-18. Larvae averaged 3 per 100 corn plants in Sussex County. (Burbutis). ALABAMA - Heavy on corn in Chambers County. (Stewart). OKLAHOMA - Heavy in mature alfalfa in Greer County, 25-40 per 10 sweeps. Generally lighter in Washita, Kiowa, Jackson and Tillman Counties, 0-6 per 10 sweeps. Head counts on sorghum ranged from 50 per 100 heads in Tillman County to 60-200 per 100 heads in Jackson County. Light terminal infestations noted in younger sorghum in these areas. Ears 85 percent infested in cornfield in Washita County, with 110 larvae per 100 ears. Noted in Bryan County with heavy egg deposition in same field. (Okla. Coop. Sur.). KANSAS - Eggs and various larval stages found on sweet corn in Riley County, northeast; over 50 percent of ears infested. (Burkhardt). WISCONSIN - Adult collected in blacklight trap at Janesville, Rock County, on June 15. (Wis. Ins. Sur.). WASHINGTON - First moth collected in light trap at Prosser, Benton County; also first date of emergence from caged pupae in soil. (Klostermeyer).

BLACK CUTWORM (Agrotis ipsilon) - NEBRASKA - Caused extensive damage to cornfield in Otoe County. (Roselle, Bergman). OHIO - Caused 20 percent damage locally to corn in Pickaway County. (Hamrick, Holdsworth).

SMEARED DAGGER MOTH (Acronicta obliqua) - DELAWARE - Larvae present but scarce on wheat in area of New Castle County. (Burbutis).

SOD WEBWORMS (Crambus spp.) - SOUTH DAKOTA - Severely damaged bluegrass lawn in Codington County. (Walton, Spawn; June 14). RHODE ISLAND - Heavy in lawn at Providence, Providence County; adults flying at night in Kingston, Washington County. (Buonaiuto, Mathewson). MARYLAND - Necessitated replanting of 175 acres of field corn at Cecilton, Cecil County. (U. Md., Ent. Dept.).

CEREAL LEAF BEETLE (Oulema melanopa) - MICHIGAN - New quarantine will go into effect in 15 counties on or near June 23. Jackson County found infested for first time. First new adults started emerging in Berrien County on June 17, but very small percentage appeared to June 21. Pupae dominant at present. Percentages of various stages found approximately 80 percent pupae, 19 percent larvae and one percent adults and eggs. Large scale emergence of new adults expected by July 5. (Ring, Castro).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Larvae causing damage to corn in southern half of State; easily found working in corn root zone in southeastern and eastern areas. Many in late stages; pupation probably will occur within one week. Larvae in northeast in early stages, with feeding damage present on root tips. D. undecimpunctata howardi adults feeding on corn plants in Otoe and Nemaha Counties. (Roselle, Bergman).

SEED-CORN BEETLE (Agonoderus lecontei) - WISCONSIN - Caused damage to corn in Winnebago County; one field reduced by one-third. (Wis. Ins. Sur.).

BILLBUGS - OHIO - Adult feeding punctures common in many corn fields throughout State; species undetermined. (Schurr, Lyon). VIRGINIA - Adults of Sphenophorus sp. heavily infested 80-acre cornfield in section of Orange County. (Amos, Lutz, Woodside; June 15). NEBRASKA - Adult feeding signs of Sphenophorus sp. readily found in an Otoe County cornfield. (Bergman).

A CERAMBYCID (Derobrachus brevicollis) - ALABAMA - Heavy in 3-acre field of Bahia grass in Covington County. (Kinard). Destroyed 20-acre field of Bahia grass in Houston County, 1959-1960. Chemical insecticides did not exert control; fungus eventually controlled infestation. (Ledbetter). Several specimens taken at lights throughout State each year. One taken each in Lee and Clay Counties recently. (Barwood, McQueen).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - About 2 acres of pasture completely destroyed in Rockingham County. (Brackney, June 11).

WIREWORMS - WISCONSIN - Numerous in many areas of Dodge and Fond du Lac Counties. (Wis. Ins. Sur.) OHIO - Averaged one per square foot of soil in several spots throughout field of soybeans near Tiffin, Seneca County; found at depths of 8-12 inches. Field has history of soil treatments. (Blair, Lyon). VIRGINIA - Melanotus communis locally damaging to corn in Rockbridge, Rockingham, Franklin and Mecklenburg Counties. (Tarpley et al., June 10-18).

GREENBUG (Schizaphis graminum) - COLORADO - Trace numbers found on small grains in Larimer, Weld, Adams and Boulder Counties; 0-50 per 100 sweeps. (Jenkins). SOUTH DAKOTA - Counts per 40 linear feet of drill row in oats as follows: 49 in Turner County; 25 in Hyde County; 1 in McPherson County; 4 in Day County; 182 on a farm in Brookings County. (Kieckhefer). WISCONSIN - Scarce in southern and western areas of State; "red leaf" symptoms rare. Reports from Marinette, Oconto and Shawano Counties reveal higher than normal incidence of both this insect and "red leaf" disease. Counts 50-100 per leaf in Shawano County. (Wis. Ins. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - UTAH - Light to moderate in wheat examined in Salt Lake and Duchesne Counties. (Knowlton). SOUTH DAKOTA - Counts per 40 linear feet of drill row in oats as follows: 26 in Turner County; 18 at Highmore, Hyde County; 2 at Eureka, McPherson County; 8 on Waubay National Wildlife Refuge, Day County; and 48 on a farm in Brookings County. (Kieckhefer). WISCONSIN - Some increase noted in oats ranging from flowering to milk stage. Counts per sweep 1-5 in Dodge, Green Lake and Fond du Lac Counties; 25 in Iowa County; 1 in Crawford County; 4 in Grant and Vernon Counties; 1-5 in Trempealeau; 18 in Dane County; 9 in Rock County; and 3 in Green County. (Wis. Ins. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEVADA - Light, spotted infestations on wheat in Orovalle and Paradise Valley, Humboldt County. (Bechtel, Cooney, Lundahl). COLORADO - Populations of this species and R. fitchii high in some barley fields in Montrose County; 400-1,000 per 100 sweeps. Controls being applied to malting barley and some grain fields. (Bulla).

A MEALYBUG (Heterococcus graminicola) - WASHINGTON - This species and unidentified thrips attacking bluegrass grown for seed at Spokane, Spokane County; apparently causing unfilled heads. (Harwood).

RICE STINK BUG (Oebalus pugnax pugnax) - ARKANSAS - Quite common on grasses that are forming seeds. Number of nymphs small compared to adults present. Some reproduction occurring. (Ark. Ins. Sur.).

BLACK GRASS BUGS - UTAH - Severely discoloring crested wheatgrass, with moderate damage to intermediate wheatgrass and other grasses, over large areas in Cedar Breaks, Cedar Mountains and Panquitch Lake areas of Iron and Garfield Counties. Light damage to some grasses on Wellsville Mountain, Box Elder County. (Thornley, Knowlton).

CHINCH BUG (Blissus leudopterus) - OKLAHOMA - Moderate infestations reported in grain sorghum in Craig and Mayes Counties, northeast. (Okla. Coop. Sur.).

CORN BLOTCH LEAF MINER (Agromyza parvicornis) - MISSOURI - Heavy infestations observed in west central area; some infested plants had as many as 100 mines per leaf. (Munson, Thomas, Wood).

A RICE LEAF MINER (Hydrellia griseola) - CALIFORNIA - Larvae medium on reed canarygrass (Phalaris arundinacea) in Alturas area, Modoc County; causing severe loss of leaves with damage to quality of forage. Condition general throughout area. (Cal. Coop. Rpt.).

SEED-CORN MAGGOT (Hylemya platura) - WISCONSIN - Considerable activity reported in Calumet County. This species probably responsible for many corn fields being replanted in Fond du Lac County. (Wis. Ins. Sur.).

WHEAT STEM MAGGOT (Meromyza americana) - WISCONSIN - Noticeably blasting heads of rye and wheat in Walworth, Rock and Kenosha Counties, particularly along field margins. Maggots nearly full grown. (Wis. Ins. Sur.).

HESSIAN FLY (Phytophaga destructor) - MICHIGAN - Generally lower populations in southwest than in past 3 years; larvae entering flax-seed stage. (Gallun, Everson; June 14).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - This species and sugarcane beetle (Euetheola rugiceps) caused medium, isolated damage to corn in Conecuh County. (Lemons, Daniels).

THIEF ANT (Solenopsis molesta) - KANSAS - Damaging grain sorghum in Dickinson County, central area; causing reduced stands. (Burkhardt).

A BARLEY THRIPS (Limothrips denticornis) - NORTH DAKOTA - Counts 10-15 per stem on barley near Hope; 5 per stem on barley near Walhalla. (N.D. Ins. Sur.).

GARDEN SYMPHYLAN (Scutigerella immaculata) - IOWA - Recorded in O'Brien County for a new record; attacking 40-acre field of corn. (Iowa Ins. Inf., June 17). OHIO - Damage to corn hair roots observed at Bellefontaine, Logan County, west central area. Many specimens found around hair roots. (Hufford, Blair, June 14).

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae averaged 6 per sweep in alfalfa seed fields in Kings River Valley, 1-2 per sweep in seed fields and 6-15 per sweep in hay fields with some retarding of new growth occurring in recently cut, old hay fields in Oroville, Humboldt County. (Bechtel, Lundahl). Averaged 3-20 per sweep in hay fields in Paradise Valley, Humboldt County. (Bechtel, Cooney). UTAH - Larval counts very high in some Cache, Salt Lake and Box Elder County alfalfa; overwintered adults remain fairly numerous in most fields. (Knowlton). WYOMING - Larvae averaged 140 per 100 sweeps in Big Horn Basin. Resistance to recommended chemicals appears to be evident in nearly all areas. (Fullerton). SOUTH DAKOTA - High populations in extreme west central area; varied 30-700 per 100 sweeps in Butte, Meade, Pennington and Lawrence Counties. Larvae in first to fourth stages. (Gerhardt, Walstrom, Hintz; June 14). ARKANSAS - Two specimens collected from alfalfa in St. Francis County, east central, May 22; new county record. (Ark. Ins. Sur.). VIRGINIA - Severely infesting clover in pasture near Pleasant Grove. (Wood). Larvae range 20-60 per 100 sweeps in untreated field at Steeles Tavern, Augusta County; few adults present. Averaged about 80 larvae per 100 sweeps in Orange County field treated after first cutting. (Woodside). MARYLAND - Larval damage to second growth continues; larvae ranged 2-10 per sweep in Dorchester and Frederick Counties. (U. Md., Ent. Dept.). DELAWARE - Feeding injury to second-growth alfalfa generally light in most areas; larvae averaged less than 3-4 per 10 sweeps. Few adults present in some areas. (Burbutis). NEW YORK - Feeding peaked in Ulster County; pupation general throughout all unharvested fields. Early cut fields being heavily damaged as regrowth occurs and many

growers treating or plan to immediately. Treatment this past fall continues to look very promising. Damage medium to heavy in southeastern quarter of Albany County; first time weevil damage has been a problem in the county. (N.Y. Wkly. Rpt.; June 17). RHODE ISLAND - Larvae averaged 5 per sweep in alfalfa-clover-timothy mixture in Kingston, Washington County. (Kerr).

A WEEVIL (Sitona scissifrons) - SOUTH DAKOTA - Counts 25-30 per 100 sweeps in alfalfa in west central area. (Gerhardt, Walstrom, Hintz).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - Heavy, isolated damage to corn and peanuts in all parts of Conecuh and Monroe Counties. (Lemons).

PALE-STRIPED FLEA BEETLE (Systema blanda) - DELAWARE - Adults present on alfalfa statewide; rather numerous locally in New Castle County. (Burbutis). MARYLAND - Averaged 1 per sweep on second-growth red clover at Trappe, Talbot County. (U. Md., Ent. Dept.). OHIO - Serious feeding damage occurred on corn at Wooster, Wayne County; approximately 1,600 square feet infested. Heaviest counts 4-5 beetles per corn leaf. Many leaves dying. (Guthrie, Findlay, Lyon).

STRIPED FLEA BEETLE (Phyllotreta striolata) - SOUTH DAKOTA - High on alfalfa in Jones and Mellette Counties; 150-550 per 100 sweeps. (Hintz).

BLISTER BEETLES - ALABAMA - Epicauta cinerea destroyed one acre of peanuts before control started in Covington County. Undetermined species rather heavy in Chambers County. (Stephenson, Stewart). Epicauta sp. feeding light on isolated grass in areas of Lee County. (McQueen). NEW MEXICO - Epicauta sp., possibly cinerea, averaged 10-15 per 100 sweeps in alfalfa near Albuquerque, Bernalillo County; feeding damage noted. (N.M. Coop. Rpt.). SOUTH DAKOTA - E. fabricii collected on alfalfa throughout State; ranged from less than 1 to 3 per 10 sweeps. (Gerhardt, Walstrom, Hintz; June 14). NORTH DAKOTA - E. fabricii adults up to 20 per 10 sweeps in southwest alfalfa. (Brandvik).

PEA APHID (Acyrtosiphon pisum) - WASHINGTON - Agamic forms attacking alfalfa. Increasing rapidly after first cutting; many fields treated. A parasite, Praon sp., increasing in fields. (Featherston). Building up rapidly on alfalfa grown for seed in lower Yakima valley. (Menke). NEVADA - Averaged 20 per sweep in alfalfa seed fields in Kings River Valley and varied 0-14 per sweep in hay and seed fields in Orovida, Humboldt County. (Bechtel, Lundahl). Only occasional specimens found in most hay fields in Paradise Valley, Humboldt County. (Bechtel, Cooney). Averaged 10-15 per sweep in seed fields in Reese River, Lander County. (Lundahl). UTAH - Increased during recent weeks of cool, rainy weather over much of northern area. (Knowlton). ARIZONA - Counts in alfalfa remaining much higher than usual and for longer periods of time. Some injury to seed fields may result. (Ariz. Coop. Sur.). NEW MEXICO - Continues light in Bernalillo County alfalfa. Disappearing in alfalfa in southern counties as temperatures rise to 90-100 degrees F. (N.M. Coop. Rpt.). COLORADO - Continues low on alfalfa in Weld, Larimer and Boulder Counties. (Jenkins). OKLAHOMA - Generally light on alfalfa in southwest; counts ranged from fewer than 25 to 200 per 10 sweeps. (Okla. Coop. Sur.). WYOMING - Averaged 500 per 100 sweeps in Big Horn Basin; about 80 percent of fields cut. (Fullerton). SOUTH DAKOTA - Populations much lower than previous weeks; probably due to high predator counts. (Hintz). NORTH DAKOTA - Low on alfalfa in northeast; lady beetles and lacewings numerous in several fields. (N.D. Ins. Sur.). WISCONSIN - Populations generally static; becoming somewhat more noticeable on some second-crop alfalfa. Winged forms prevalent in some fields. Parasites and predators apparently increasing. Counts ranged 4-40 per sweep; highest in Crawford, Dane, Rock, Green, Dodge and Green Lake Counties. (Wis. Ins. Sur.). MARYLAND - Generally light on alfalfa; ranged 0-15 per sweep on alfalfa in Dorchester and Frederick Counties. (U. Md., Ent. Dept.). DELAWARE - Populations generally higher in Kent and Sussex Counties; averaged 5 per sweep in these counties and 1-3 per sweep in New Castle County. (Burbutis). RHODE ISLAND - Relatively light at Kingston, Washington County. (Kerr).

SPOTTED ALFALFA APHID (Therioaphis maculata) - SOUTH DAKOTA - Continues to be found farther west; counts per 100 sweeps in alfalfa 9-12 alates in Tripp County, 2 alates and 2 apterous in Mellette County, and 2 apterous in Jones County. (Hintz). Collected as far west as Tripp-Todd County line in south central region week of June 7-13 with 7 apterous forms per 100 sweeps. (Gerhardt, Walstrom, Hintz). OKLAHOMA - Light in all fields checked, with highest counts noted in Greer County (35-50 per 10 sweeps) and Jackson County (75-125 per 10 sweeps). (Okla. Coop. Sur.). ARIZONA - Building up in Safford area. (Ariz. Coop. Sur.).

CLOVER APHID (Anuraphis bakeri) - UTAH - Common on red clover in Henefer area, Summit County. (Knowlton).

LYGUS BUGS (Lygus spp.) - WASHINGTON - Adults and nymphs rapidly building up on alfalfa grown for seed. Damaging flower heads in lower Yakima Valley, Yakima County. Adults and nymphs averaged 25 per 10 sweeps on alfalfa grown for seed at Connell, Franklin County. (Landis, Menke, June 14). Second brood beginning rapid development on alfalfa in lower Yakima Valley. (Menke, June 21). NEVADA - Averaged 40-50 per sweep in alfalfa seed fields in Orovalda, Humboldt County, and 15-20 per sweep in Reese River, Lander County; mostly nymphs and adults. (Lundahl). ARIZONA - Counts in alfalfa average 1,000 nymphs and adults per 100 sweeps at Experimental Farm in Graham County; seed growers applied controls in Yuma County. (Ariz. Coop. Sur.). WYOMING - Nymphs averaged 40 per 100 sweeps in alfalfa in Big Horn Basin. (Fullerton).

FALSE CHINCH BUGS - OKLAHOMA - Nysius sp. reported heavy in alfalfa field, migrating from harvested wheatfield in Grady County. (Okla. Coop. Sur.). CALIFORNIA - N. raphanus medium on hay being harvested in Cholame, San Luis Obispo County. (Cal. Coop. Rpt.).

SUPERB PLANT BUG (Adelphocoris superbus) - UTAH - Nymphs moderately numerous on alfalfa at Manila, Daggett County, and in Vernal-Naples area, Uintah County. (Knowlton).

PLANT BUGS (Lygus lineolaris, Adelphocoris lineolatus) - NORTH DAKOTA - Moderate numbers on alfalfa in northeast. (N.D. Ins. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Additional reports indicate usual or more than usual injury in northern Lower Peninsula. Adults first reported from Montcalm County on June 8. (Kirch, Myers, Post, Mars; June 14). OHIO - Light to heavy throughout State. Heaviest counts 2,500-3,000 adults per 50 sweeps in Columbiana County, northeast; 25-50 adults per 50 sweeps in Seneca County, north central. Populations approximately 99 percent adult throughout State. (Lyon). DELAWARE - Adults 5 per 10 sweeps on alfalfa in New Castle and Kent Counties. (Burbutis). MARYLAND - Adults common on alfalfa and red clover in Frederick County. (U. Md., Ent. Dept.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Counts 80-300 adults per 100 sweeps in alfalfa in Safford area and averaged 10 per sweep in Yuma area. Also on increase in central area. (Ariz. Coop. Sur.). ARKANSAS - Very light on soybeans. (Ark. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Counts in alfalfa in northeast ranged 4-25 per sweep; some yellowing of alfalfa evident in northeast and east central areas. (Munson, Thomas, Wood). WISCONSIN - Generally light on alfalfa. (Wis. Ins. Sur.). OHIO - Adults averaged one per sweep on alfalfa at Wooster, Wayne County. (Treece, Miller). MARYLAND - Second-growth alfalfa in Dorchester and Frederick Counties had below 1 per sweep. (U. Md., Ent. Dept.). DELAWARE - Adults fairly common on alfalfa. (Burbutis). VIRGINIA - Adults ranged 0-6 per 10 sweeps on alfalfa at Raphine, Rockbridge County. (Woodside).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - DELAWARE - Adults common to numerous on alfalfa throughout State. (Burbutis).

LEAFHOPPERS (undetermined) - SOUTH DAKOTA - Collected throughout southeastern and south central areas of State; present on both alfalfa and small grains. Counts ranged 27-175 per 10 sweeps; large number nymphs. (Hintz). OHIO - Soybean plants infested in Wood County, northwest. (Wagoner).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Generally light on alfalfa in southwest. (Okla. Coop. Sur.). ARKANSAS - Very light on soybeans. (Ark. Ins. Sur.). MARYLAND - Larvae light on alfalfa and red clover in Dorchester and Talbot Counties. (U. Md., Ent. Dept.). DELAWARE - First larvae of season present to common on alfalfa statewide; 5 per 10 sweeps. (Burbutis).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - OKLAHOMA - Moderate populations, 6-12 per 10 sweeps, observed on alfalfa in Greer County. Lighter counts, 0-3 per 10 sweeps, present in other areas checked in southwest. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - UTAH - Less numerous than normal in various areas of State. (Knowlton). OKLAHOMA - Generally light on alfalfa in southwest. (Okla. Coop. Sur.).

WEBWORMS (Loxostege spp.) - KANSAS - Occasional fields of corn, sorghum and soybeans being severely attacked in Lyon County, east central; alfalfa in area not infested. (Peters). OKLAHOMA - L. similalis heavy, 25-50 per 10 sweeps, and damaging alfalfa in parts of Greer and Jackson Counties. Lighter, 2-6 per 10 sweeps, and less damaging in Washita, Kiowa and Tillman Counties. (Okla. Coop. Sur.). MISSOURI - L. similalis larvae light in northeast. (Munson, Thomas, Wood).

SPIDER MITES - MARYLAND - Heavily infesting red clover grown for seed at Hurlock, Caroline County. (U. Md., Ent. Dept.).

STRAWBERRY ROOTWORM (Paria fragariae) - DELAWARE - Adults present but scarce; feeding on soybeans in western Kent County. Det. by W. Connell. (Burbutis).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Increasing somewhat on soybeans in Wicomico County. (U. Md., Ent. Dept.).

BEAN LEAF BETTLE (Cerotoma trifurcata) - NEBRASKA - Adults averaged 5 per 10 sweeps on soybeans in Saunders County; much feeding damage evident on leaves. (Bergman). IOWA - Feeding on soybean leaves at Ames, Story County. (Iowa Ins. Inf., June 17). ARKANSAS - Very light on soybeans; occasional specimen found in Pulaski County. (Ark. Ins. Sur.). MARYLAND - Adults causing light to moderate foliage injury to soybeans on Eastern Shore. (U. Md., Ent. Dept.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WASHINGTON - Counts 0-10 adults plus numerous eggs and young stages per leaflet on plot of red clover raised for seed near Othello, Adams County; treatment required because it is single-cut variety of clover. (Johansen, June 14). All stages attacking red clover at Toppenish, Yakima County. Infestation on clover for some time; now moving to beets and other crops. (Landis, June 21). Severely damaging red clover at Othello, Grant County. (Johansen, June 21). ILLINOIS - Commonly observed on corn in west and northwest districts; eggs also present. (Ill. Ins. Rpt.). COLORADO - Damage to corn not evident since recent rain in Larimer and Weld Counties. (Jenkins).

THRIPS (undetermined) - ARIZONA - Some controls being applied in Yuma area. (Ariz. Coop. Sur.). NEBRASKA - Infestations causing damage to corn leaves in Dodge and Saunders Counties. (Roselle, Bergman). DELAWARE - Several species numerous and apparently increasing on several crops, i.e. alfalfa, small grains, corn and soybeans, in many areas. (Burbutis). MARYLAND - Heavy on alfalfa, red clover, corn and soybeans in eastern and central sections. (U. Md., Ent. Dept.).

FRUIT INSECTS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - FLORIDA - June 17 marked beginning of fourth infestation of species in State. Adults trapped in Miami, Dade County. Additional traps being placed in area; some fruit cutting for larval survey also underway. Total of 5 adults at 2 locations trapped on June 17 and 18. (Fla. Coop. Sur.).

Citrus Insect Situation in Florida - Mid-June - CITRUS RUST MITE (Phyllocoptura oleivora) infested 47 percent of groves (norm 49 percent); 34 percent economic (norm 28 percent). Population near normal for June and increasing. High level will prevail in July and August. Highest districts Bartow, west coast, ridge, Brooksville and upper east coast. TEXAS CITRUS MITE (Eutetranychus banksi) infested 60 percent of groves (norm 47 percent); 34 percent economic (norm 29 percent). High population level will occur from mid-June to mid-July, then decline. Highest districts Indian River, ridge and upper east coast. CITRUS RED MITE (Panonychus citri) infested 55 percent of groves (norm 74 percent); 26 percent economic (norm 52 percent). Population will rise into high range in July, but heavy infestations expected to be fewer and more scattered than normal. Highest districts west coast and Orlando. PURPLE SCALE (Lepidosaphes beckii) infested 65 percent of groves (norm 79 percent); 10 percent economic (norm 17 percent). Population below normal, with little change anticipated; parasites expected to keep most infestations light. CHAFF SCALE (Parlatoria pergandii) infested 59 percent of groves (norm 41 percent); 19 percent economic (norm 1 percent). GLOVER SCALE (Lepidosaphes gloverii) infested 50 percent of groves (norm 27 percent); 22 percent economic (norm 1 percent). Both chaff scale and glover scale populations much above normal. Further increase, especially on fruit, expected. Heavy infestations will occur in numerous groves not badly damaged by cold. BLACK SCALE (Saissetia oleae) infested 43 percent of groves (norm 43 percent); 32 percent economic (norm 28 percent). Although statewide population only slightly above normal, it is very high in groves that escaped cold damage mostly in Indian River, Bartow and ridge districts. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

A PINK CITRUS RUST MITE (Aculus pelekassi) - FLORIDA - Infesting trifoliolate orange at Melrose, Alachua County (Graham, June 4); sweet orange at Eustis, Lake County (Brown); at Plant City, Hillsborough County (Custead, Hill, June 11); and at Davenport, Polk County (Norton, June 12).

TEXAS CITRUS MITE (Eutetranychus banksi) - FLORIDA - Infesting citrus at Lake Jem, Lake County. (Fatic, June 13).

CITRUS RED MITE (Panonychus citri) - FLORIDA - Severe on hundreds of citrus plants at Lake Jem, Lake County. (Fatic, June 13).

CITRUS RUST MITE (Phyllocoptura oleivora) - FLORIDA - Rather severe in citrus area on citrus; collections made in Lake, Hillsborough and Volusia Counties. (Fla. Coop. Sur.).

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Large percentage of fruit infested in untreated apple orchards in Bernalillo and Sandoval Counties; good to excellent control in properly treated orchards. (N. M. Coop. Rpt.). COLORADO - Controls good in Mesa County; second cover spray underway in Delta County. (Bulla). MISSOURI - New entries noted in southeast; pupation underway in most orchards. (Wkly. Rpt. Fr. Grs., June 19). WISCONSIN - Two traps at Gays Mills yielded 3 adults June 17. Total of 8 collected in Madison trap June 13-17 and one at Middleton June 13. Adults noted in Bayfield County. (Wis. Ins. Sur.). INDIANA - First and second-brood activity in Vincennes area, Knox County, will overlap. Few adults still emerging from overwintering tree bands. Early first-generation larvae have left apples. (Cleveland, June 18). MICHIGAN - Adults continued to emerge in sizeable numbers in cages in Kent and Oakland Counties June 3-10; eggs observed in Berrien County orchards June 7; no larval entries

noted to June 14 but expected within following 7 days. (Gilmore, Siefert, Tatter, Carpenter, Howitt). NEW YORK - Activity greatly retarded by cool weather in Niagara County; eggs laid June 7 now in red-ring stage. Emergence in cages continues at moderate level (27 through June 7; 4 on June 10; 6 on June 14 and 1 on June 15). None taken in bait traps since June 10 in Niagara County. (N. Y. Wkly. Rpt., June 17). CONNECTICUT - Continues unreported in State. (Savos). MARYLAND - Emergence continues at Hancock, Washington County. (U. Md., Ent. Dept.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MISSOURI - Fresh entries noted in peach terminals in central and southeastern areas. (Wkly. Rpt. Fr. Grs., June 19). INDIANA - Adults coming to bait traps in Vincennes area, Knox County; second-brood egg laying probably started. Hatch expected about June 18. (Cleveland). NEW YORK - Damage appearing on new growth of peaches in Nassau County. Few peach terminals showing activity in Orleans County. (N. Y. Wkly. Rpt., June 17). CONNECTICUT - First terminal injury of season found at New Haven; only one terminal injured. (Savos).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - MAINE - Infestation noted in Turner; 75 percent pupated June 13. Confined to tops of taller trees. (Boulanger, June 14). OREGON - Emergence noted in Salem area week of June 10. (Goeden).

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Larvae heavy in apricot fruit in Porterville, Tulare County. (Cal. Coop. Rpt.).

SPOTTED CUTWORM (Amathes c-nigrum) - CALIFORNIA - Causing severe damage to peach orchards in Empire-Modesto areas, Stanislaus County. Chewing large holes in green peaches and severely damaging foliage. Accompanying cover crops Johnson grass, dock and miscellaneous weeds; adults abundant in light traps. (Cal. Coop. Rpt.).

EUROPEAN RED MITE (Panonychus ulmi) - MAINE - Moderate infestations scattered in southern and central areas. Damage light in southern area; injury moderate on foliage in one central area orchard. Controls, when properly applied, appear to be satisfactory; ovicides also gave good results and phosphates gave excellent kill of first-generation (overwintering) forms. (Boulanger, June 14). VERMONT - Building up in some orchards; bronzing evident on Red Delicious variety. (MacCollom, June 17). CONNECTICUT - Populations appear lower but expected to change with predicted hot weather. Close inspections urged. (Savos). NEW YORK - Not yet numerous in Orleans County. (N. Y. Wkly. Rpt., June 17). NEW JERSEY - Populations on apple increasing rapidly on untreated check trees in southern test areas. Only adults and eggs evident previous week, but eggs now hatching. Bronzing of leaves noticeable where no controls applied. (Ins.-Dis. Newsltr., June 18). OHIO - Averaged 1.5 or fewer per leaf on apple at Wooster, Wayne County, June 18-20. (Forsythe). MICHIGAN - Recent rains temporarily halted buildup in fruit areas. (Howitt, Carpenter, Tatter, June 14). INDIANA - Populations in Vincennes area, Knox County, vary 0-100 forms per leaf. (Cleveland, June 18).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - MAINE - Could become serious if warm weather of past few weeks continues. Some movement into trees already reported; adults well up in a number of trees in orchard in Leeds. (Boulanger, June 14). CONNECTICUT - Populations appear lower but expected to change with predicted hot weather; close inspections urged. (Savos). MISSOURI - Building up on untreated trees in southeast and present in low numbers in west central area. (Wkly. Rpt. Fr. Grs., June 19). COLORADO - Appearing on bindweed and cover crops in apple and pear orchards in Delta and Mesa Counties; none found on fruit trees. (Bulla). OREGON - Building up on pears and apples in Jackson County. (Berry).

SPIDER MITES - MARYLAND - Decreasing on apple at Hancock, Washington County. (U. Md., Ent. Dept.). UTAH - Bryobia rubrioculus extremely numerous in home apple orchard at Logan, Cache County; moderately numerous in small apple orchard

near Tremonton, Box Elder County. (Davis, Knowlton). NEW MEXICO - Tetranychus mcdanieli beginning to build up in apple orchards in Sandoval and Bernalillo Counties. (N. M. Coop. Rpt.).

PEAR RUST MITE (Epitrimerus pyri) - NEW YORK - Building up rapidly on untreated trees in Niagara County; little russetting evident. (N. Y. Wkly. Rpt., June 17). OREGON - Continues problem on pears and apples in Jackson County. (Berry).

APPLE APHID (Aphis pomi) - MAINE - Infestations and injury light in southern areas; winged forms migrating in central areas; no damage apparent. (Boulanger, June 14). CONNECTICUT - Increasing in many parts of State. Building up rapidly on terminals and sucker growth at Storrs; inspections urged. (Savos). NEW YORK - Beginning to build up on various apple varieties in Nassau County. (N. Y. Wkly. Rpt., June 17). UTAH - Populations below normal in number of orchard areas in southern and central parts of State. (Knowlton).

ROSY APPLE APHID (Anuraphis rosea) - UTAH - Numerous on apple foliage. (Knowlton, Davis). CONNECTICUT - Scarce, probably on way out. (Savos).

MEALY PLUM APHID (Hyalopterus pruni) - CALIFORNIA - All stages heavy on plum trees locally in Chico, Butte County. (Cal. Coop. Rpt.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Light to heavy in many orchards in northern counties, especially on new growth in center of trees. (N. M. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - CONNECTICUT - Building up on pears throughout State. (Savos). WASHINGTON - All stages attacking pears near Mayview, Garfield County. (Brannon).

APPLE LEAFHOPPER (Empoasca maligna) - UTAH - Discoloring apple foliage at Uintah and Ogden, Weber County, and at Croyden, Morgan County. (Knowlton).

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria) - NEW YORK - Adults and nymphs evident in orchard in Clinton in spite of treatment; foliage exhibits considerable feeding injury. (N. Y. Wkly. Rpt., June 17). RHODE ISLAND - Building up on untreated apple trees in Kingston, Washington County. (Mathewson).

PERIODICAL CICADAS - INDIANA - Adults still active in Vincennes area, Knox County; oviposition continues. Growers cautioned not to end treatments too early. Considerable migration to orchards from adjacent woodlands observed. Egg hatch should begin about July 20. (Cleveland, June 18). MISSOURI - Activity ceased in southeastern area. (Wkly. Rpt. Fr. Grs., June 19).

STINK BUGS - OREGON - Hatching in large numbers on pear and apple leaves in Jackson County. (Berry).

PLUM CURCULIO (Conotrachelus nenuphar) - OHIO - First larvae left dropped plums at Wooster, Wayne County, June 18. (Forsythe). Oviposition and feeding damage abundant on apples in several northeastern counties, viz Stark, Mahoning, Summit, Medina and Portage. Adults collected easily from tree in Medina County; all apples infested. (Lyon). MICHIGAN - Egg laying and very pronounced adult feeding, which was underway during warm period earlier in month on unsprayed stone fruits, decreased during past week. (Carpenter, Siefert, June 14). NEW YORK - Damage not severe in Nassau County. Caused considerable damage in untreated prune orchards in Wayne County. (N. Y. Wkly. Rpt., June 17).

PEAR-SLUG (Caliroa cerasi) - RHODE ISLAND - Typically skeletonized leaves noted on home yard tree in Riverside, Providence County. (Mathewson). VIRGINIA - Infesting cherry trees locally in Spotsylvania County (Tarpley, Kash), cherry tree in Independence, Grayson County (Tarpley, Cassell, June 10) and common on plum trees in nursery in Chesterfield County (Tarpley, June 6).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - NEW YORK - Many apples damaged in Nassau County. (N. Y. Wkly. Rpt., June 17).

GLOBOSE SCALE (Lecanium prunastri) - DELAWARE - Present on peach locally in New Castle County; not all eggs laid, but hatching of previously laid eggs now occurring. (Bray).

SAN JOSE SCALE (Aspidiotus perniciosus) - FLORIDA - Severe on pear at Starke, Bradford County. (Collins, June 13). OREGON - Crawlers appeared week of June 17 in Medford area on pears and apples. (Berry).

BLACK CHERRY APHID (Myzus cerasi) - MICHIGAN - Populations continue high on sweet and red cherry trees in Berrien County. (Tatter, June 14). UTAH - Numerous in some Willard-Perry orchards in Box Elder County. (Knowlton). This and other species numerous on prunes at Providence, Cache County. (Knowlton, Davis).

CECIDOMYIIDS (Dasyneura spp.) - MAINE - D. mali moderate and injury light to apple in Greene, Androscoggin County. (Boulanger, June 14). NEW JERSEY - D. vaccinii notably scarce on cranberry bogs where controls applied in 1962. (Ins.-Dis. Newsltr., June 18).

APPLE MAGGOT (Rhagoletis pomonella) - CONNECTICUT - Five adults, first of season, collected at Storrs June 24 from emergence cages. Controls urged especially on early varieties of apples. (Savos).

BLACK CHERRY FRUIT FLY (Rhagoletis fausta) - MICHIGAN - Adults observed active in field in Berrien County June 7, same day emergence occurred in cage in Grand Traverse County. Growers north of Charlevoix, Otsego, Oscoda and Alcona County line advised first fly spray should be applied by June 18. (Tatter, Gardner).

GRAPE ROOTWORM (Fidia viticida) - IOWA - Larval damage on roots and adult feeding on grape leaves noted in vineyard in Harrison County. Roots severely shortened; foliage sparse. Single adult seen. (Iowa Ins. Inf., June 17).

GRAPE LEAF FOLDER (Desmia funeralis) - RHODE ISLAND - Adults collected in black-light trap in Kingston, Washington County. (Mathewson). FLORIDA - Moderate on grapes at Daytona Beach, Volusia County. (Pott, June 13).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - Few adults observed in several vineyards in both Rosati and Steelville areas. (Wkly. Rpt. Fr. Grs., June 19).

APHIDS - MISSOURI - Very heavy on grapevines near Steelville; in fact, nearly entire grape area in State shows some aphids on tips of vines. (Wkly. Rpt. Fr. Grs., June 19).

CURRENT STEM GIRDLER (Janus integer) - WASHINGTON - Attacking Wilder Red currants at Grandview, Yakima County; about 4 acres involved. Heavy, 8-20 injured shoots per plant noted. This species new to State, apparently not previously known west of Manitoba and Montana. Det. by B. D. Burks. (Cone).

LEAF ROLLER MOTHS (Sparganothis spp.) - NEW JERSEY - Populations in cranberry bogs apparently very heavy; controls have been delayed by poor weather. (Ins.-Dis. Newsltr., June 18).

RED-HUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Medium on black walnut trees in Laton, Fresno County. (Cal. Coop. Rpt.).

A FILBERT APHID (Myzocallis coryli) - OREGON - Building up on filberts in Eugene area. (Stephenson).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - WASHINGTON - Recently hatched at Zillah, Yakima County. No general infestation but potentially severe. At Walla Walla, Walla Walla County, almost full-grown, first-generation larvae parasitized by a tachinid (Doryphorophaga dorypharæ). Damaging potatoes in gardens at Yakima, Yakima County, and tomatoes in gardens at Moses Lake, Grant County. (Landis, June 14). Eggs and larvae heavy in some potato fields at Quincy, Grant County; treatment necessary. (Landis). UTAH - Infesting most tomato and potato fields at Clinton, Davis County. (Knowlton, June 17). OHIO - All instars noted on potato plants at Medina, Medina County; ranged 2-18 larvae per plant, but only few plants infested in patch. (Lyon). VIRGINIA - Larvae and adults severe and general in Westmoreland County on tomatoes and potatoes. (Ptucha, June 5). Continues main problem on Eastern Shore potatoes. Many growers applied 3 treatments. Eggs hatching; large second brood expected. (Hofmaster). MARYLAND - Light to medium on commercial tomatoes at Whitehaven, Wicomico County. (U. Md., Ent. Dept.). NEW YORK - Heavy on eggplant in Suffolk County. Eggs hatched on potatoes in Suffolk County; noted in tomato field in Monroe County. (N. Y. Wkly. Rpt., June 17). CONNECTICUT - Problem on tomatoes and potatoes in New Milford and North Canaan. (Savos). MASSACHUSETTS - Larvae and unhatched eggs easily found in many potato fields and on tomatoes. Eggplant also favored host plant. (Wheeler). VERMONT - Prevalent in small home garden plantings. (MacCollom, June 17).

THREE-LINED POTATO BEETLE (Lema trilineata) - OHIO - Larvae and adults noted on potatoes in Fulton County. (Jones).

POTATO FLEA BEETLE (Epitrix cucumeris) - MAINE - Populations and feeding damage to potato foliage by overwintering adults unusually light at Presque Isle, Aroostook County. Reports indicate situation may prevail elsewhere, at least in central Aroostook County. (Shands et al.). MASSACHUSETTS - Still very active on unprotected tomatoes and potatoes. (Wheeler). VIRGINIA - Generally light on Eastern Shore. (Hofmaster). OHIO - Light to moderate damage throughout State. Many potato leaves perforated. Highest counts, 4-5 adults per leaflet in Summit County. (Lyon). NORTH DAKOTA - Flea beetles, mostly this species, noted on most mustards and potato fields; 20 per 10 sweeps in some fields. (N. D. Ins. Sur.).

TUBER FLEA BEETLE (Epitrix tuberis) - COLORADO - Adults in trace numbers on potatoes in southwestern Weld County. (Jenkins).

HORNWORMS (Protoparce spp.) - VIRGINIA - Larvae medium and scattered on tomatoes in Westmoreland County; first controls applied May 29. (Ptucha, June 3). ALABAMA - Averaged one larva per 10-15 tomato plants in Covington County in isolated fields. (Stephenson).

GREEN PEACH APHID (Myzus persicae) - MASSACHUSETTS - Heavy infestation found June 20 on staked tomatoes; large colonies on undersides of lower and middle leaves. (Wheeler). COLORADO - Low on early potatoes in Weld County. (Berry, Cress). WASHINGTON - Agamic forms increasing on potatoes; treatments underway at Royal City, Grant County. (Landis).

POTATO APHID (Macrosiphum euphorbiae) - MASSACHUSETTS - Small numbers of winged forms found on upper leaves and stems of tomatoes and potatoes. (Wheeler).

Potato Aphids in Maine - Populations of BUCKTHORN APHID (Aphis nasturtii), POTATO APHID (Macrosiphum euphorbiae), GREEN PEACH APHID (Myzus persicae) and FOXGLOVE APHID (Acyrtosiphon solani) very small, especially on most of acreage of recently emerging potato plants, but substantial increase in percent infested plants in early planted fields. A. nasturtii predominates, with small numbers of M. euphorbiae and traces of A. solani. Spring migration of M. persicae in progress, but numbers so small none observed on potatoes at Presque Isle, Aroostook County. (Shands et al.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Not found on early potatoes in Weld County. (Berry, Cress).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - Heavy on 15-acre potato field; affecting grade; all potatoes sold as commercial. (Lemons, Daniel).

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - Caused severe injury in untreated field in Monroe County. (N. Y. Wkly. Rpt., June 17).

A LEAF MINER FLY (Liriomyza sp.) - CALIFORNIA - Causing severe mining of 2-acre planting of Swiss chard in Santa Ana, Orange County. (Cal. Coop. Rpt.). Caused severe damage to mustard greens in Compton area, Los Angeles County, in 20-acre planting. (H. Johnson).

IMPORTED CABBAGEWORM (Pieris rapae) - MARYLAND - Heavy on cabbage in several home gardens in Dorchester and Wicomico Counties. (U. Md., Ent. Dept.). NEW YORK - Active in many seedbeds in Orleans County. (N. Y. Wkly. Rpt., June 17).

CABBAGE LOOPER (Trichoplusia ni) - MARYLAND - Larvae appearing on cabbage and other crucifers in Wicomico County. (U. Md., Ent. Dept.).

CABBAGE CURCULIO (Ceutorhynchus rapae) - VIRGINIA - Noted in 6 fields of cabbage in Northampton County. (Hofmaster).

PEA APHID (Acyrtosiphon pisum) - WISCONSIN - Numbers in some pea fields require extensive treatments. Populations fluctuate, especially in areas where severe thunderstorms occurred. Some indications that reinfestation may be occurring. Counts on early, midseason and late varieties in Fond du Lac County ranged 1-10 per sweep; 5-10 per sweep in La Crosse and Trempealeau Counties; 10 per sweep in Iowa County. In Columbia County, averaged 12 per sweep on early varieties and 4 per sweep in midseason and late varieties. Averaged 14 per sweep on early varieties in Dane County and 16 per sweep in Rock County; 11 per sweep in Rock County on midseason and late varieties. Averaged 18 per sweep on midseason and late varieties in Walworth County. (Wis. Ins. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MASSACHUSETTS - Eggs found on vegetables June 20; none hatched in Springfield area. (Wheeler). NEW YORK - Moderate to heavy in Suffolk County. (N. Y. Wkly. Rpt., June 17). MARYLAND - Adults and larvae very destructive to unprotected garden snap and lima beans in Dorchester, Wicomico and Worcester Counties. (U. Md., Ent. Dept.). VIRGINIA - Not yet heavy on snap and lima beans on Eastern Shore. (Hofmaster). ALABAMA - Heavy and widespread in untreated gardens and on pole and lima beans in southern Covington County. (Stephenson). KANSAS - Occasional, newly emerged beetle noted on snap beans in Wyandotte County; very little damage. (Peters). COLORADO - Trace numbers on beans in Weld County; no eggs found. (Jenkins). UTAH - Noted in additional bean patches in Weber and Salt Lake Counties, and at Logan, Cache County. (Thornley, Knowlton, June 17).

BEAN LEAF BEETLE (Cerotoma trifurcata) - VIRGINIA - Not yet heavy on snap and lima beans on Eastern Shore. (Hofmaster). MARYLAND - Injury moderate on snap beans at Fruitland, Wicomico County. (U. Md., Ent. Dept.).

ASH-GRAY BLISTER BEETLE (Epicauta fabricii) - ALABAMA - Heavy locally on southern peas in Escambia County; controls necessary. (Lemons, Daniel).

BEET WEBWORM (Loxostege sticticalis) - WYOMING - Eggs hatching in Big Horn Basin, particularly in Washakie County; recent survey indicates possible heavy infestation. (Fullerton). NORTH DAKOTA - Few adults noted in field margins in north-east; no eggs observed. (N. D. Ins. Sur.).

BLACK CUTWORM (Agrotis ipsilon) - OREGON - Probably this species infesting beet seedlings in southern Willamette Valley. (Stephenson).

BEEF LEAFHOPPER (Circulifer tenellus) - WASHINGTON - Spring-flight adults increased from 4 per 100 sweeps June 10 to 25 per 100 sweeps June 13 on sugar beets at Prosser, Benton County. (Klostermeyer). UTAH - One tomato field at Washington, Washington County, noted with 33 percent curly top. (Dorst). COLORADO - Ranged 0-6 per square foot on sugar beets in Montrose, Delta and Mesa Counties. Incidence of curly top ranges 2-20 percent. (Bulla).

SPINACH LEAF MINER (Pegomya hyoscyami) - MAINE - Infestations and damage moderate on spinach and beets in Scarboro and Cape Elizabeth. (Boulanger, June 14). VERMONT - Reported on spinach. (MacCollom, June 17). NEW YORK - Heavy on spinach, beets and Swiss chard in Albany County. (N. Y. Wkly. Rpt., June 17). MICHIGAN - Serious on spinach and Swiss chard in Kalamazoo County. (Warner, Guyer, June 14). WASHINGTON - Now in egg and larval stages. Leaf damage to sugar beets more severe at Walla Walla, Walla Walla County, than for several years. Populations developing more slowly at Yakima, Yakima County, and Connell, Franklin County. (Landis, June 14).

SPRINGTAILS - OREGON - Damaging beet seedlings in Eugene area. (Stephenson).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WASHINGTON - All stages attacking sugar beets; infestations in red clover for some time now moving to beets and other crops in Toppenish, Yakima County. (Landis).

ONION MAGGOT (Hylemya antiqua) - COLORADO - Adults numerous in some onion fields. First-generation larvae caused considerable damage; now ovipositing and further losses can be expected in Weld County. (Jenkins). NEW YORK - Some stands of onions, already quite thin, expected to be thinned more by maggots in Madison-Oneida County area. (N. Y. Wkly. Rpt., June 17).

ASPARAGUS BEETLES (Crioceris spp.) - VERMONT - C. asparagi very active. (MacCollom, June 17). CONNECTICUT - C. duodecimpunctata problem in Mansfield. (Savos).

CUCUMBER BEETLES - MARYLAND - Acalymma vittata adults attacking cucumber flowers in large planting at Fruitland, Wicomico County. (U. Md., Ent. Dept.). NEW YORK - Unspecified species quite prominent on many cucurbits in Suffolk County. Principal concern in Monroe County. (N. Y. Wkly. Rpt., June 17). MASSACHUSETTS - A. vittata still in fields. (Wheeler).

WHITEFLIES - CONNECTICUT - Problem on lettuce in North Canaan. (Savos).

VARIEGATED CUTWORM (Peridroma saucia) - RHODE ISLAND - Damaging lettuce in Peace Dale, Washington County. (Mathewson).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - VIRGINIA - Present in new sweet-potato plantings and causing severe damage in localized areas on Eastern Shore. (Hofmaster). MARYLAND - Feeding signs, especially on older leaves, very conspicuous in several sweetpotato fields in Wicomico County. (U. Md., Ent. Dept.).

STRAWBERRY LEAF ROLLERS - UTAH - Ancyliis comptana fragariae damaging strawberry foliage at Mantua, Box Elder County, and causing moderate damage at Garden City, Rich County. (Knowlton). Adults of 2 species in moderate numbers over strawberry patches at Garden City; third species, chiefly larvae, about ready to pupate. (Knowlton, Cazier).

A WEEVIL (Trachyploeus bifoveolatus) - OREGON - Small numbers of adults present under strawberry plants at Estacada. (Rosensteil).

CYCLAMEN MITE (Steneotarsonemus pallidus) - MAINE - Infestations and damage moderate on strawberries in Lewiston, Androscoggin County. (Boulanger, June 14).

FLEA BEETLES - VERMONT - Active on tomatoes and potatoes. (MacCollom, June 17). NEW YORK - Caused normal amount of damage in Albany County. Very active on potatoes in Madison-Oneida County area. Causing considerable trouble on canning

beets in Ontario County; most growers expect plants to outgrow trouble. (N. Y. Wkly. Rpt., June 17). CONNECTICUT - Problem on tomatoes in Torrington and Mansfield. (Savos).

WIREWORMS - WASHINGTON - Limonius spp. larvæ damaging potatoes and sugar beets. Damage noted earlier in some fields continuing in spite of hot weather, but at slower rate, at Quincy, Grant County, and Walla Walla, Walla Walla County. (Onsager). ALABAMA - Undetermined species caused lowered grade of 30 acres of potatoes; sold commercially. (Lemons, Daniel).

GRASSHOPPERS - NEW MEXICO - Damaging truck crops and home gardens in Bernalillo and Sandoval Counties. (N. M. Coop. Rpt.). MISSOURI - Troublesome in home gardens in Boone County. (Wkly. Rpt. Fr. Grs., June 19). ALABAMA - Various species appearing in greater numbers in gardens in Escambia, Conecuh and Monroe Counties. (Lemons).

CUTWORMS - MAINE - Infestations and damage light on vegetables in Cumberland County. (Boulanger, June 14). NEW YORK - Caused normal amount of damage in Albany County. (N. Y. Wkly. Rpt., June 17). ALABAMA - Feeding on 80-acre field of potato tubers underground in Escambia County; twice as many selling as grade #2 as usual. (Lemons, Daniel). NORTH DAKOTA - Noted in home gardens in various parts of State. (N. D. Ins. Sur.). CALIFORNIA - Proxenus mindara damaging strawberry plantings in Gilroy, Santa Clara County. (Cal. Coop. Rpt.).

LEAF MINERS - NEW YORK - Damaged spinach and beets in Suffolk County. Some damage to lettuce in Albany County. (N. Y. Wkly. Rpt., June 17). VIRGINIA - Weather unfavorable for buildup on Eastern Shore. (Hofmaster).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Becoming numerous on snap beans in some areas of State; heavy on potatoes locally in western New Castle County and very light elsewhere. (Burbutis). MARYLAND - Increasing on snap and lima beans in Dorchester and Wicomico Counties. (U. Md., Ent. Dept.).

SIX-SPOTTED LEAFHOPPER (Macrostelus fascifrons) - NORTH DAKOTA - Trace numbers in sugar beet fields near Grafton and Neche. (N. D. Ins. Sur.). COLORADO - Not found on carrots in Weld County. (Jenkins).

GREEN STINK BUG (Acrosternum hilare) - VIRGINIA - Taken in large numbers in light traps on Eastern Shore. (Hofmaster).

LYGUS BUGS (Lygus spp.) - WASHINGTON - Nymphs and adults causing noticeable wilting and death of new tip leaves of potato at Othello, Grant County; light on sugar beets at Connell, Franklin County. (Landis).

THRIPS - MARYLAND - Heavy on several large plantings of beans and cucumbers in Caroline, Dorchester and Wicomico Counties. (U. Md., Ent. Dept.).

SPIDER MITES - ARIZONA - Tetranychus spp. heavy on many melon fields in Yuma area. (Ariz. Coop. Sur.). UTAH - Mites of two-spotted group extremely abundant in, and damaging to, larger raspberry fields in 1962, appeared unusually early this spring. Some fields already treated four times for control at Garden City, Rich County. (Knowlton).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Small colonies noted on tobacco in Prince Georges and St. Marys Counties. No significant increase expected until July. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults ranged 2-8 per tobacco plant at Upper Marlboro, Prince Georges County; new generation indicated. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Light to moderate numbers of eggs and larvae on tobacco in Prince Georges and St. Marys Counties. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Infestations heavy locally in extreme southern area; infestations in other areas generally light. (Tex. Coop. Rpt.). Percent punctured squares averaged 1 in McLennan and Falls Counties; first-generation weevils appearing in occasional early planted field. (Cowan et al.). OKLAHOMA - Percent punctured squares 3 locally in Bryan County; occasional weevil noted in southwest, but no damage noted. Light activity reported from Webbers Falls area, east central. (Okla. Coop. Sur.). ARKANSAS - Activity very low in most cotton fields. (Ark. Ins. Sur.). TENNESSEE - Few found to June 21 in southern part of western counties. (Locke). MISSISSIPPI - Light in Holmes, Lowndes, Monroe, Prentiss and Quitman Counties; controls applied. (Ouzts). In delta counties, weevils found in one field; punctured squares found in 6 to 27 fields checked. Average percent punctured squares in infested fields 4.17, with range of 0-21. (Pfrimmer et al.). LOUISIANA - Overall infestation in Tallulah area remains low; very few fields treated. (Smith et al.). ALABAMA - Infestation remains low; movement of adults from overwintered quarters still very slow. New generation expected to begin June 28 to July 5. (McQueen et al.). SOUTH CAROLINA - Emergence ranged light to moderate in most areas; punctured squares as high as 30 percent in unprotected fields. (Cott. Ltr., June 17). Damage increasing. Fewer weevils emerging from hibernation in Florence area than year ago. As high as 40 percent punctured squares in untreated fields. Average percent punctured squares 3.67 in treated fields and 13 in untreated fields. (Cott. Ltr., June 25).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Feeding on young squares throughout Coastal Plain and lower Piedmont counties; more evident than boll weevil punctures in fields examined; as many as 6 squares per plant being injured by single larva. (Cott. Ltr., June 17). Populations increasing. At Florence, 264 H. zea caught in light traps compared with 211 at same time in 1962. Total caught to June 19 in area has been 412 compared with 543 in 1962. (Cott. Ltr., June 25). ALABAMA - Eggs 0-75 per 100 terminals. (McQueen et al.). LOUISIANA - Few fields in Tallulah area warrant treatment; some infestation present in almost all fields. Beneficials numerous in untreated fields. Infestation lower during latter part of week. (Smith et al.). MISSISSIPPI - Light to medium on cotton in delta counties, and in Attala, Choctaw, Copiah, Holmes, Lowndes and Monroe Counties; controls applied. (Ouzts). Eggs per 100 terminals ranged 0-4 (averaged 0.8) in 9 of 27 fields checked. Injury to squares very heavy in one field. (Pfrimmer et al.). TENNESSEE - Light, scattered damage to small squares occurring in southern part of western area. (Locke). ARKANSAS - Active in many fields, but egg and larval counts not high. (Ark. Ins. Sur.). MISSOURI - Of 645 fields scouted, 8 infested with 0-5 per 100 plants. (French). OKLAHOMA - Infestations 3-15 percent in Jackson County, southwest; 2 percent in Bryan County. Most plantings in southwest in presquare stage; feeding evident where squares available. (Okla. Coop. Sur.). TEXAS - H. virescens comprises about 75 percent of bollworm complex in much of central area and in southern half of State. Considerable damage occurring and controls being applied. (Tex. Coop. Rpt.). Percent injured squares in McLennan and Falls Counties averaged 5.5 in treated fields and 2.2 in untreated fields; boll injury averaged 2.5 percent. About 58 percent of larvae H. zea. (Cowan et al.). ARIZONA - H. zea found in Pinal County in squares and small bolls in many fields; controls started. (Ariz. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - ALABAMA - Noted in Autauga County cotton on May 16. This is second year pest reported in State; may become a problem. (Watson).

PINK BOLLWORM (Pectinophora gossypiella) - FLORIDA - Collected at Marathon Shores, Monroe County, on wild cotton June 6. (Allen, Creamer, Williams).

COTTON SQUARE BORER (Strymon melinus) - NEW MEXICO - Occasional larva found in cotton in southern Eddy County. (N. M. Coop. Rpt.). OKLAHOMA - Infestation 2-3 percent on cotton in Bryan County, south central. (Okla. Coop. Sur.).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Heavy and causing considerable damage to seedling cotton in several northwest counties. (Tex. Coop. Rpt.). OKLAHOMA - Extensive localized damage occurring in Altus area; 5 acres of 10-acre field defoliated. Light in most fields checked in Kiowa, Jackson and Tillman Counties, but damage evident. Approximately 5-6 percent of seedling plants showed feeding damage in field northeast of Frederick, Tillman County. (Okla. Coop. Sur.). MISSISSIPPI - Light in Tunica County. (Ouzts).

CUTWORMS - CALIFORNIA - Serious in many cotton fields in Blythe area, Riverside County; controls required. (Eskafi, June 4).

COTTON FLEAHOPPER (Psallus seriatus) - TEXAS - Infestations variable, but some fields in all areas being damaged and controls being applied. (Tex. Coop. Rpt.). Averaged 5 per 100 terminals in McLennan and Falls Counties. (Cowan et al.). OKLAHOMA - Light in most cotton fields checked in Washita, Kiowa, Greer, Jackson and Tillman Counties. (Okla. Coop. Sur.). ARKANSAS - Numbers in central and southeast somewhat higher than normal, but economic infestations very rare. Counts in several fields checked ranged 10-15 per 100 terminals. (Ark. Ins. Sur.) MISSISSIPPI - Light to medium in Humphreys, Madison, Prentiss, Tallahatchie, Sharkey and Sunflower Counties; controls applied. (Ouzts). Counts per 100 sweeps in delta counties ranged 0-5 and averaged 3.56 in 9 of 27 fields checked. (Pfrimmer et al.). ALABAMA - Noted in most cotton fields, but apparently not as heavy as 10-15 days ago. (McQueen et al.).

A BLACK FLEAHOPPER (Spanogonicus albofasciatus) - ARIZONA - Present on cotton in Yuma, Maricopa, Pima, Pinal and Graham Counties. In Pima, Pinal and Graham Counties, counts 15-75 nymphs and adults per 100 sweeps. Injured leaves very noticeable where nymphs feeding. (Ariz. Coop. Sur.). NEW MEXICO - Appearing in cotton in southern counties; also found commonly on weeds around borders of cotton fields in Eddy County. (N. M. Coop. Rpt.).

A FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - Heavy populations in grain and weedy areas adjacent to cotton in Tulare County; no appreciable damage observed. Some insecticide barriers being used. (George, June 7).

LYGUS BUGS (Lygus spp.) - ARIZONA - Counts 12-60 per 100 sweeps in various parts of State. In Pima County, around Marana, many plants need protection. (Ariz. Coop. Sur.). NEW MEXICO - Remain low in most cotton fields in Eddy and Chaves Counties, although apparently building up in some Dona Ana County cotton. (N. M. Coop. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - MISSISSIPPI - Light to medium on cotton in Coahoma, Humphreys, Lowndes, Madison, Tallahatchie, Tunica and Sharkey Counties; controls applied. (Ouzts). Counts per 100 sweeps in delta counties ranged 0-5 and averaged 1.7 in 15 of 27 fields checked. (Pfrimmer).

PLANT BUGS - MISSOURI - Total of 306 fields of 645 scouted infested, with 0-22 per 100 plants. (French).

SPIDER MITES - CALIFORNIA - Tetranychus telarius and T. cinnabarinus represent most serious pest problem during early June in Blythe area, Riverside County; controls required in some fields. (Eskafi, June 4). Unspecified species increasing in most areas of Tulare County; controls being used. (George, June 7). Cotton growing rapidly in Madera County, but mite populations keeping up with growth in some fields. T. atlanticus prevalent as indicated by defoliation. (Johnson, Burton; June 13). NEVADA - Tetranychus spp. infestations continue medium to heavy in Pahrump Valley, Nye County, with several fields currently being treated. (Lauderdale, Slater). ARIZONA - Tetranychus spp. present in more than usual numbers in cotton throughout State. (Ariz. Coop. Sur.). MISSOURI - Marginal and spot infestations of unspecified species found in 108 of 645 fields scouted. (French). TENNESSEE - Unspecified species present in number of western area fields, but not damaging. (Locke). MISSISSIPPI - Tetranychus spp. light to medium on cotton in Prentiss and Quitman Counties; controls applied. (Ouzts). ALABAMA - Isolated, heavy infestations of unspecified species reported. (McQueen et al.).

THRIPS - MISSISSIPPI - Light to heavy in Quitman County; controls applied. (Ouzts). TEXAS - Several species continue to cause light to heavy damage to smaller cotton, particularly in northwest where considerable replanting done. (Tex. Coop. Rpt.). OKLAHOMA - Frankliniella spp. light in Washita, Greer, Kiowa, Jackson and Tillman Counties; moderate to heavy in central, south central and southeast counties. (Okla. Coop. Sur.).

APHIDS - CALIFORNIA - Heavy populations prevalent during May in Tulare County; however, beneficial species, mainly lady beetles and parasites, brought infestations under control. (George, June 7). NEW MEXICO - Heavy, spotted infestations of Aphis sp., probably craccivora, in few cotton fields in Dona Ana and Eddy Counties. (N. M. Coop. Rpt.). MISSOURI - Light, spotted infestations found in 150 of 645 fields scouted. (French). MISSISSIPPI - Aphis gossypii light in Attala County; controls applied. (Ouzts). SOUTH CAROLINA - Populations remain static or decreasing in all counties except Dillon and Horry where increases noted. (Cott. Ltr., June 25).

GRASSHOPPERS - TENNESSEE - Some spot damage occurring in isolated cases over cotton-growing area. (Locke).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - ARKANSAS - Ips spp. and Dendroctonus terebrans infesting more local spots. Weather has been very favorable for buildup; stands should be watched closely for increased activity. D. terebrans increasing in pine shade trees. (Ark. For. Pest Rpt., June). MISSISSIPPI - D. terebrans and Ips spp. medium in pine in Attala County; controls applied. (Ouzts). ALABAMA - Isolated, heavy infestation of Ips pini in Dallas and Lowndes Counties. Appears difficult to control in Dallas County; one acre of pines dead in Lowndes County. (Granberry, Shuler).

PINE REPRODUCTION WEEVILS - ARKANSAS - Adult activity declined; no reports of damage to seedlings during June. In fire scarred areas, activity can be expected to increase. (Ark. For. Pest Rpt.).

WHITE-SPOTTED SAWYER (Monochamus scutellarius) - MAINE - Numbers and damage moderate on exposed evergreen logs and weakened trees in Orono, Penobscot County. Peak of emergence apparently about June 8; this 7-10 days early and probably due to unusually warm weather and radiant heat on logs because of high percentage of sunny days. (Boulanger, June 14).

SOUTHERN PINE SAWYER (Monochamus titillator) - ALABAMA - Noted as more abundant but smaller in size during the spring than in preceeding years. (Pearson).

PINE CHAFER (Anomala obliqua) - MICHIGAN - First feeding noted in northern Lower Peninsula. (Flink).

PINE TUSSOCK MOTH (Dasychira plagiata) - WISCONSIN - Populations generally low in Bayfield and Douglas County stands, except on 1,500-acre area of planted and natural jack pine where high population persisted; third to fifth stage larvae observed in field June 13 and cocoons of Meteorus sp. frequently noted. (Wis. Ins. Sur.).

JACK-PINE BUDWORM (Choristoneura pinus) - WISCONSIN - Except for locally high larval counts in some Polk County localities, populations endemic throughout State. High, early counts in some west central county stands declined sharply as development progressed. Larvae in second to fourth stages in Marinette County June 14, with few sixth stage observed in Juneau County same date. (Wis. Ins. Sur.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - VIRGINIA - Pupating with few adults in flight at Lawrenceville, Brunswick County. Small hymenopterous parasite, probably Hyssopus thymus, common. (Kulman, June 3).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - RHODE ISLAND - Adults emerging in Middletown, Newport County. (Kerr).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - INDIANA - Much more prevalent in Indianapolis area, Marion County, than when first found few years ago. (Ind. Cons. Dept. Ent. Div.).

TIP MOTHS - ARKANSAS - Damage by first larval generation locally severe. Emergence of second adult brood passed peak. Weather favored adult activity. Because of lack of rainfall, pines will not tolerate as heavy an attack as under good growing conditions; thus, damage by second larval brood may appear more spectacular than normal. (Ark. For. Pest Rpt., June).

PINE BARK APHID (Pineus strobi) - MICHIGAN - Heavy on Christmas-tree plantations in Livingston and Sanilac Counties. (Haugard, Sowerby, June 14). NORTH CAROLINA - Infesting white pine in Cleveland County June 10. (Wray).

SPRUCE GALL APHIDS (Chermes spp.) - WISCONSIN - C. abietis galls unusually numerous on some Jefferson County Norway spruce. C. cooleyi population high on ornamental Douglas-fir, as it has been for several previous years. (Wis. Ins. Sur.).

PINE TORTOISE SCALE (Toumeyella numismaticum) - WISCONSIN - Heavy on scattered individual trees and small groups in several northern area locations. Some scattered tree mortality occurred; more can be expected. Young lady beetle larvae active on some infested trees in Douglas and Bayfield Counties June 13. (Wis. Ins. Sur.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - CONNECTICUT - Creating a problem on Scotch pine at Danbury. (Savos).

CONIFER SAWFLIES (Neodiprion spp.) - ARKANSAS - Defoliation by N. taedae linearis greater than any year since 1947. Estimates indicate infestations active on possibly 500,000 acres of pine timberland in central counties; up to 250,000 acres moderately to heavily attacked. First larval brood of N. lecontei present in scattered areas; infestations appear light and non-significant. A predator (Arilus sp.) partly responsible for suppression of numbers. (Ark. For. Pest Rpt., June). N. taedae linearis larvae that were very heavy in southeast earlier now full grown. (Ark. Ins. Sur.). WISCONSIN - Most N. nanulus nanulus larvae cocooned in small Columbia County red pine plantation June 14. Defoliation not as severe as in 1962. (Wis. Ins. Sur.). MICHIGAN - N. sertifer larvae caused heavy defoliation in several areas including Ingham County; feeding largely complete. Some carry-over of virus disease sprayed in 1962 observed. (Flink, Wells).

WEB-SPINNING SAWFLIES (Acantholyda spp.) - CONNECTICUT - A. erythrocephala a problem in Lebanon and Wallingford. (Savos). RHODE ISLAND - Acantholyda sp. active on pine in Cranston, Providence County. (Buonaiuto, Mathewson).

SPRUCE SPIDER MITE (Oligonychus ununguis) - INDIANA - Heavy populations severely damaged ornamental plantings of Norway and blue spruce in Michigan City area, La Porte County. (Schuder). MARYLAND - On hemlock and spruce in areas of Anne Arundel, Allegany, Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ALABAMA - Continues to cause heavy damage to elm in Lee County. (Pearson). OKLAHOMA - Egg deposition for third generation occurring in Stillwater area, Payne County. Widespread defoliation continues throughout State. (Okla. Coop. Sur.). ARKANSAS - Second larval brood appearing. In some areas, damage by first brood heavy; locally severe damage by second brood can be expected. (Ark. For. Pest Rpt., June). NEVADA - First and second-stage larvae on elms in Winnemucca, Humboldt County. (Bechtel, Cooney). NEBRASKA - Caused heavy foliage damage to elms in some areas of southeast section. Full-grown larvae moving down tree trunks to pupate in Peru, Nemaha County. (Bergman). INDIANA - Larvae feeding on Chinese elm in central areas; infestations locally heavy. (Ind. Cons. Dept. Ent. Div.). DELAWARE - Damaging elms in area of Sussex County. (Burbutis). VERMONT - Eggs hatching; feeding will begin soon. (MacCollom, June 17).

LARGER ELM LEAF BEETLE (Monocesta coryli) - NORTH CAROLINA - Large numbers noted emerging under elm trees in Forsyth County June 7 and 8. (Wright). Also noted in Alexander and Orange Counties. (Warrick, Armstrong, June 14).

LOCUST LEAF MINER (Xenochalepus dorsalis) - INDIANA - Adults numerous on black locust. (Ind. Cons. Dept. Ent. Div.).

LEAF BEETLES - DELAWARE - Anoplitis inaequalis adults common on black locust in area of New Castle County. (Burbutis). KANSAS - Anomoea laticlavata defoliated locust trees in Republic County, north central, June 13 (Gates); severely defoliated terminal growth of locust in Saline County same date;

feeding on locust in Leavenworth County, northeast, June 8, with only few trees infested (Charlton). NORTH DAKOTA - Chrysomela crotchii adults numerous on poplar and willow in northeast corner of State. Also noted in small grain fields; in one instance, large numbers noted on clothing on outside line and on buildings around farmstead. (N. D. Ins. Sur.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - NEBRASKA - Adults feeding on elms in Nebraska City, Otoe County. (Bergman).

BRONZE BIRCH BORER (Agrilus anxius) - INDIANA - Adults numerous in central area. Damage to paper birch expected to be heavy again this year. (Ind. Cons. Dept. Ent. Div.).

CANKERWORMS - WISCONSIN - Defoliation by Alsophila pometaria and Paleacrita vernata ranged light to heavy in Columbia and Marquette Counties; some defoliation noticeable in parts of Wood, Eau Claire and Winnebago Counties. Refoliation and pupation occurring in infested areas of Columbia and Marquette Counties. Larvae in last stage in Polk County June 14. (Wis. Ins. Sur.).

FALL WEBWORM (Hyphantria cunea) - ARKANSAS - Active in northwest. (Ark. Ins. Sur.). NEW MEXICO - First generation on shade trees in Carlsbad area. (N. M. Coop. Rpt.). OREGON - Egg laying noted in Salem area. (Stephenson).

SATIN MOTH (Stilpnotia salicis) - CALIFORNIA - Larvae heavy on silver poplars in Alturas, Modoc County; this is first record of larval infestation in State. Light adult populations have been noted since 1960 when species first recorded. (Cal. Coop. Rpt.). MAINE - Moderate populations causing light damage to poplars in Corinna, Penobscot County. (Boulanger, June 14).

FOREST TENT CATERPILLAR (Malacosoma disstria) - NEW JERSEY - Heavily damaged oak in Palatine area, Salem County. (Buck, June 18). RHODE ISLAND - Noted in Johnston, Providence County. (Cartier). MICHIGAN - Larval feeding complete as far north as Kalkaska County; defoliation heavy this year. (Flink, Patterson).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - MICHIGAN - Large larvae numerous on maple in Kalkaska County. (Flink, Patterson). DELAWARE - Adults common in blacklight traps and first eggs noted June 11 in Kent County. (Bray).

GREGARIOUS OAK LEAF MINER (Cameraria cincinnatiella) - OHIO - Moderate to heavy on English oak in Hamilton County, southwest; 4-5 larvae per mine in many leaves. Most larvae full grown. No infestations on adjacent red, willow, pin and shingle oak trees. (Cooley).

CARPENTERWORM (Prionoxystus robiniae) - COLORADO - Active in shelterbelt trees in Phillips County. (Hantsbarger).

GYPSY MOTH (Porthetria dispar) - MAINE - Infestations and damage light on shade trees in Auburn, Androscoggin County. (Boulanger, June 14). VERMONT - Defoliating shrubbery in Burlington area, Chittenden County. (MacCollom, June 17).

LARGE ASPEN TORTRIX (Choristoneura conflictana) - WISCONSIN - Defoliation in Rusk and Sawyer Counties appeared more scattered and less severe than in 1962. (Wis. Ins. Sur.).

SPINY OAKWORM (Anisota stigma) - FLORIDA - Severe on Quercus spp. at Buckingham, Lee County (June 10). (Shirah).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - SOUTH DAKOTA - Larvae reported heavy on elm at Olivet, Hutchinson County. (Kantack).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - WASHINGTON - Heavy on silver maples at Pullman, Whitman County; now ovipositing. (Telford). COLORADO - Crawlers active on maple in Denver County. (Hantsbarger). IOWA - Infesting maple in Plymouth County and silver maple in Iowa City, Johnson County. (Iowa Ins. Inf., June 17). WISCONSIN - Eggs hatching in Janesville area, Rock County. Treatment should begin soon in southern area of State for best results. (Wis. Ins. Sur.).

WOOLLY ALDER APHID (Prociphilus tessellatus) - MARYLAND - Heavy on silver maple at locations in Anne Arundel and St. Marys Counties. (U. Md., Ent. Dept.). VIRGINIA - Severe on maples at several locations in King William County (Tarpley, Kelly, June 7) and a location in Prince George County (Tarpley, Ryburn, June 8); also at 2 locations in Gate City, Scott County (Tarpley, Rich, June 5, 14).

EUROPEAN ELM SCALE (Gossyparia spuria) - UTAH - Damaging number of large elms in Salt Lake City area. (Knowlton). WISCONSIN - Eggs have hatched; crawlers still beneath parent scales. Emergence expected after few days of warm weather. (Wis. Ins. Sur.).

A PHYLLOXERA (Phylloxera sp.) - ALABAMA - Heavy on willows in isolated area in Mobile County. (Bolton, Seibels).

PLANT BUGS - CALIFORNIA - Neoborus pacificus adults heavy on ash trees generally in Highlands area, San Bernardino County. (Cal. Coop. Rpt.). NORTH DAKOTA - Adults and nymphs of undetermined species causing severe damage to ash foliage in northern Dunn County. (Brandvik).

WALKINGSTICKS - ARKANSAS - Nymphs of unspecified species appearing on foliage. Particular attention should be given sites heavily infested during 1962. Abnormal activity should be reported. (Ark. For. Pest Rpt., June).

BIRCH LEAF MINER (Fenusa pusilla) - NEW JERSEY - Second generation active and laying eggs on birch. (Ins.-Dis. Newsltr., June 18).

MAPLE BLADDER-GALL MITE (Vasates quadripedes) - CONNECTICUT - Injury to maple causing concern at Norwich and Suffield. (Savos).

BAGWORM (Thyridopteryx ephemeraeformis) - NEW JERSEY - Feeding on arborvitae. (Ins.-Dis. Newsltr., June 18). MARYLAND - Hatching heavy on cedars and junipers in parts of St. Marys County. Infesting boxelders in Caroline County. (U. Md. Ent. Dept.). OHIO - Larvae observed in nursery in Muskingum County, east central. (Ellis). INDIANA - Larvae one-half inch long and damaging arborvitae in Warrick County; also feeding heavily in Sullivan County. (Schuder, Matthew). No viable eggs found in central area; winter killed. (Ind. Cons. Dept. Ent. Div.). ARKANSAS - Activity has been locally heavy; largest larvae now two-thirds grown. To prevent serious damage, controls should be applied immediately. (Ark. For. Pest Rpt., June). Observed feeding on ornamental apple in Jefferson County. (Ark. Ins. Sur.). OKLAHOMA - Heavy populations damaging evergreens throughout State. (Okla. Coop. Sur.). TEXAS - Activity continues moderate on variety of small shrubs and trees in eastern half of State. (Newton).

LEAF ROLLER MOTHS - OREGON - Archips rosaceanus unusually abundant this year and causing considerable damage to Pyracantha sp. (Richer). NEVADA - Undetermined species ranged light to heavy on chrysanthemum, lilac and forsythia in Reno, Washoe County. (Lauderdale). UTAH - Gracilaria negundella stripped foliage from numerous boxelder trees south of Ogden, Weber County. (Knowlton, June 17).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Infestation 13.5 percent in unsprayed pecans in Sparks area, Lincoln County, north central. Reported light to moderate in Muskogee, Okmulgee, Murray and Cotton Counties. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Light on pecans in Sparks area, Lincoln County. (Okla. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Infesting Chrysanthemum sp. in Charlotte and Lee Counties, June 10. Approximately 1,500 plants inspected. (Walsh).

MIMOSA WEBWORM (Homadaula albizziae) - ARKANSAS - Active in northwest area. (Ark. Ins. Sur.).

DOGWOOD BORER (Thamnosphesia scitula) - ALABAMA - Considerably active in dogwoods in Chambers County. (Stewart).

IRIS BORER (Macronoctua onusta) - NORTH CAROLINA - About to enter roots in Rowan and Yadkin Counties. (J. F. Greene, June 14).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - MICHIGAN - Adults emerged from rooted yew cuttings in Ottawa County June 13. (Andrus, Marlowe). Larvae and adults found on dying yew plants in several private landscape plantings in Wayne County. (Smith, June 14).

PINE ROOT COLLAR WEEVIL (Hylobius radicis) - WISCONSIN - Severely damaging some Scotch pine Christmas-tree plantings in Adams and Jackson Counties. (Wis. Ins. Sur.).

PALES WEEVIL (Hylobius pales) - INDIANA - Infesting pine stumps in Christmas-tree plantation in Warrick County. This is new county record. (Schuder).

ROSE CHAFER (Macrodactylus subspinosus) - WISCONSIN - Noticeably active and feeding in Dunn, Brown, Monroe, Outagamie, Waushara, Menomarie, and parts of Sauk and Columbia Counties. (Wis. Ins. Sur.). MICHIGAN - Generally heavy in Lenawee County and moderate to light in some other areas. (Tatter, Johnson, Woodman, Bless, Kendeigh, Carlson, Bloomer, Machiele, Mullett, Patterson). OHIO - First adults of season taken in traps near Friendship, Scioto County, and West Union, Adams County, June 6. (Polivka). Adults observed on grape plants in Lake County June 12 (Still), and 2 adults taken in sweepings at Canfield, Mahoning County, June 18 (Lyon). CONNECTICUT - Active in all parts of State. (Savos). RHODE ISLAND - Building up statewide. (Mathewson, Buonaiuto, King). VERMONT - Present in large numbers. (MacCollom, June 17).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Adults increasing on roses and other host plants in southern counties. (U. Md., Ent. Dept.).

A SCARAB (Trichiotinus piger) - OHIO - Many adults observed feeding on roses near Willard, Huron County, north central. (Kostewicz).

THREE-LINED POTATO BEETLE (Lema trilineata) - SOUTH DAKOTA - Caused considerable damage to Japanese lantern plants (groundcherry, Physalis sp.) in garden in Brookings, Brookings County. Eggs, larvae and adults present. (Spawn, June 13).

ROSE LEAF BEETLE (Nodonota puncticollis) - DELAWARE - Adults feeding on roses in area of New Castle County. (Burbutis).

BUMBLE FLOWER BEETLE (Euphoria inda) - OHIO - Adults injuring roses at Upper Sandusky, Wyandot County, northwest. (Mitchell, Holdworth).

APHIDS - CALIFORNIA - Eulachnus rileyi infesting pines on ranch near Miramar, San Diego County. Cinara piciccola heavy on spruce trees in Alturas, Modoc County. All stages of Therioaphis tiliae present on leaves and twigs of linden trees in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

APHIDS (undetermined) - NORTH DAKOTA - Various species apparently building up on trees and shrubs. (N. D. Ins. Sur.). WASHINGTON - Heavily attacking maples at Yakima, Yakima County, and Pullman, Whitman County; causing heavy honeydew drip and premature shedding of leaves. (Landis, Telford). UTAH - Numerous on roses, curling leaves of ash trees and present on some maples in Morgan and Croyden, Morgan County. (Knowlton, June 17). Several species troublesome to variety of ornamentals in some areas. (Knowlton, Davis). NEW MEXICO - Curling leaves of green ash at Albuquerque, Bernalillo County. (N. M. Coop. Rpt.).

LACE BUGS - CONNECTICUT - Unspecified species active on andromeda, rhododendron and azalea. (Savos). UTAH - Numerous on leaves of chokecherry in Hobbles Creek Canyon, Utah County, and Parleys Canyon, Salt Lake County. (Knowlton, Taylor).

COCCIDS - CALIFORNIA - Chionaspis ortholobis medium on Ceanothus sp. in Yuba Summit, Sierra County. (Cal. Coop. Rpt.). OREGON - Pulvinaria floccifera crawlers moving from egg masses on holly in Willamette Valley. (Nicolaison). UTAH - Lepidosaphes ulmi eggs hatching on ash in Croyden, Morgan County, June 14. Some hatch noted at Coalville, Summit County. (Knowlton). WISCONSIN - Eggs of Lecanium sp. hatched in Jefferson and Dodge Counties; crawlers emerging from beneath parent scales. Heavy infestations noted on junipers in area. (Wis. Ins. Sur.). IOWA - Lecanium fletcheri eggs hatching on yew at Iowa City, Johnson County. (Robb, June 14). DELAWARE - Lecanium corni infesting sweetgum trees in an area of New Castle County; most eggs laid but no hatch noted. (Bray). CONNECTICUT - Lepidosaphes ulmi a problem on lilac at Torrington. (Savos). RHODE ISLAND - Lepidosaphes yanagicola eggs present in Middletown, Newport County; no evidence of hatch. (Cartier). Probably Pseudococcus cuspidatae, heavy on ornamental yew in Wakefield, Washington County. (Stessel, Mathewson). Lecanium sp. heavy on Franklinia sp. in Providence, Providence County. (Buonaiuto).

Coccids in Florida - Cerococcus sp. light to moderate on Hibiscus sp. at North Miami Beach, Dade County; live females with eggs present. (Hickman, June 11). Chrysomphalis aonidum severe on Trachycarpus martianus at South Miami, Dade County (Dowling, Swanson, May 29), and on Cymbidium finlaysonianum at Boynton Beach, Palm Beach County (Long, June 14). Comstockiella sabalis moderate on Sabal palmetto at Daytona Beach and Icerya purchasi moderate on Pittosporum tobira at Holly Hill, Volusia County. (Pott, June 13). Ischnaspis longirostris severe on T. martianus at South Miami. (Dowling, Swanson, May 29). Orthezia insignis heavy on Coleus sp. at Kissimmee, Osceola County. (Vild, June 13). Pseudaonidia clavigera infested Camellia sp. at St. Petersburg, Pinellas County, with live crawlers found. (Miller, June 11). Pseudaulacaspis pentagona severe on Catalpa sp. at Lake Butler, Union County. (Collins, June 11). Pseudococcus adonidum severe on Codiaeum sp. and Platyserium sp. at Eau Gallie and Pothos sp. at Cocoa, Brevard County. (Levan, June 13, 14). Pseudococcus citri moderate to severe on Gardenia sp. at Eau Gallie. (Levan, June 10).

WHITEFLIES - UTAH - Nymphs of Tetralicia sp. and Tetraleurodes sp. moderately numerous during past 2 months on evergreen oaks in Pintura and Leeds, Washington County; Tetralicia sp. most numerous along Mt. Carmel highway. Tetraleurodes ursorum and Aleuroplatus sp. also occurred April 16; Aleuroplatus gelatinosus was also collected. Det. by L. M. Russell. Latter species is a new State record. (Knowlton).

THRIPS - NORTH CAROLINA - Unspecified species infesting roses in Johnston and Rockingham Counties. (Robertson, June 14). Unusually abundant on ornamentals for past several weeks. (J. F. Greene, June 14). DELAWARE - Heavy on roses in New Castle County; severely deformed buds. (Bray).

EUROPEAN EARWIG (Forficula auricularia) - WASHINGTON - Damaging flowers and gardens at Yakima, Yakima County. (Landis). UTAH - Notching leaves of lilac about some homes in Salt Lake City. (Knowlton).

KATYDIDS - NEW MEXICO - Moderate on trees and shrubs in Albuquerque area, Bernalillo County; nymphs causing some foliage damage. (N. M. Coop. Rpt.).

LEAF MINER FLIES - OHIO - Phytomyza minuscula larvae mined leaves of columbine at Lisbon, Columbiana County, northeast. Active larvae present. (Neiswander). CALIFORNIA - Possibly Liriomyza langei caused heavy mining of petunia leaves locally in Long Beach, Los Angeles County. (Cal. Coop. Rpt.).

MIDGES - INDIANA - Oligotrophus sp., a severe pest of Caenert juniper, emerged at Lafayette, Tippecanoe County, June 18. (Schuder). OHIO - Dasyneura gleditschiae infestation 100 percent on 50 honeylocust trees in Summit County, northeast. (Kelly). RHODE ISLAND - Galls, probably formed by Rhabdophaga sp., heavy on cultivated pussy willow (Salix discolor) in Hopkinton, Washington County. (Mathewson).

PECAN LEAFROLL MITE (Aceria caryae) - OKLAHOMA - Curling leaves of pecans in Stillwater area, Payne County. Reported to be heavier than in 1962. (Okla. Coop. Sur.).

SPIDER MITES - ARIZONA - Tetranychus spp. very common on many shrubs in central area; controls necessary in many instances. (Ariz. Coop. Sur.). NEW MEXICO - Unspecified species serious on junipers, roses and other ornamentals throughout most of State. (N. M. Coop. Rpt.). COLORADO - Damaging numbers of unspecified species on apple trees in Boulder County. (Hantsbarger). OREGON - Probably Tetranychus sp. causing dieback of tips on Alberta and Colorado spruce in Multnomah County. (Hemmerling). MISSOURI - Unspecified species infesting evergreens in southeast area. (Wkly. Rpt. Fr. Grs., June 19). MARYLAND - Unspecified species infesting English boxwood in St. Marys County. (U. Md., Ent. Dept.).

TAWNY GARDEN SLUG (Limax flavus) - CALIFORNIA - Heavy on ornamental rhubarb plants in Visalia, Tulare County. (Cal. Coop. Rpt.).

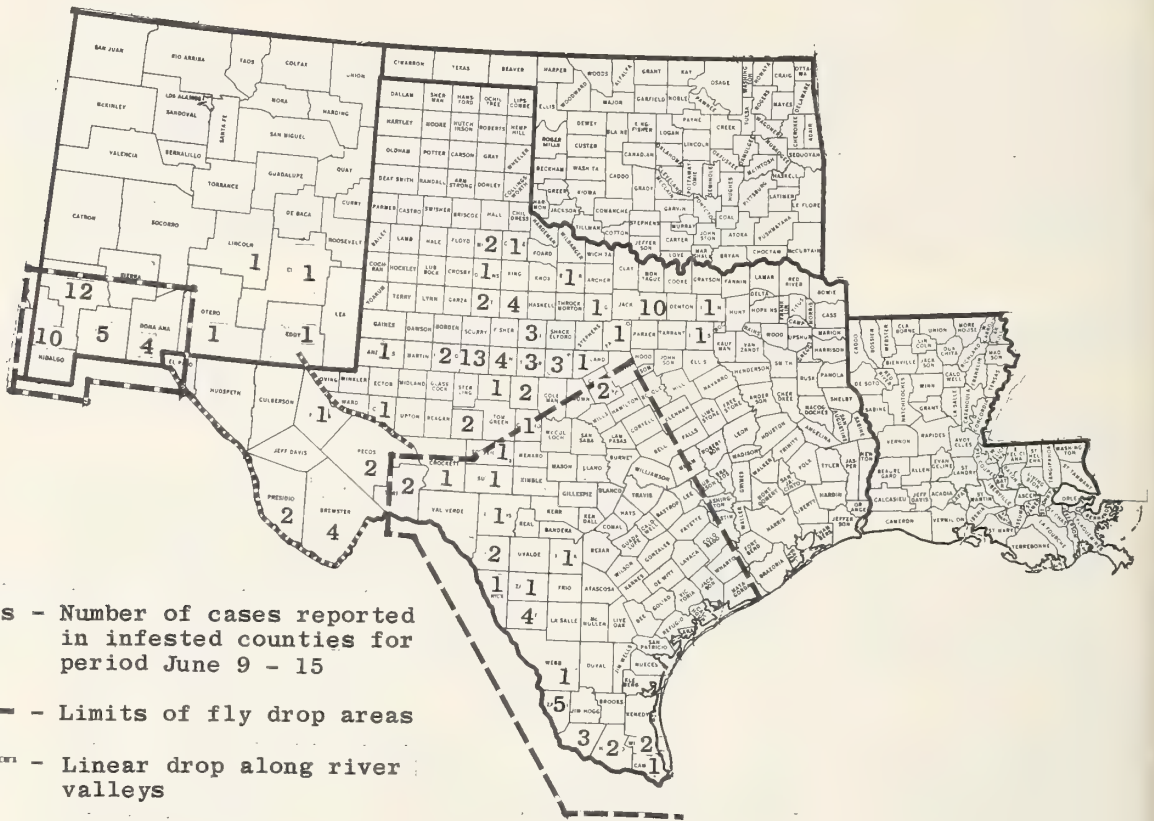
INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MISSISSIPPI - Psorophora spp. light to medium in delta area. (Ouzts). TEXAS - High populations of unspecified species causing considerable annoyance to residents of Floyd and Bailey Counties. (Tex. Coop. Rpt.). NEW MEXICO - Unspecified species extremely abundant in Carlsbad and Artesia, Eddy County; very annoying in fields and cities following recent rains. (N. M. Coop. Rpt.). ARIZONA - Unspecified species causing some annoyance to homeowners in Casa Grande area, Pinal County. (Ariz. Coop. Sur.). UTAH - Unspecified species moderately annoying at Blue Creek and Howell, Box Elder County; Morgan, Croyden and Petersen, Morgan County; in fields about Centerville, Davis County; and in orchards in Perry area, Box Elder County. (Knowlton, June 17). Becoming more troublesome in Garden City and Randolph areas, Rich County; some annoyance experienced in Sugar House area, Salt Lake County; continue troublesome in many parts of Cache County, including adjacent canyons; very troublesome in fields about Farmington and West Kaysville, Davis County. Annoying to cattle in Myton-Duchesne area, Duchesne County. More annoying in Salt Lake City area than for several years, as continuing rains make control difficult. Populations high around Bear Lake, from Woodruff to Randolph and from Allen Canyon to summit of mountains in Rich County; continue annoying in Delta area, Millard County. (Knowlton). SOUTH DAKOTA - Mostly Aedes spp. becoming annoying in Brookings, Brookings County. (Spawn, June 13). Mosquito development apparently somewhat slowed by cool weather. (Gerhardt, June 14). NORTH DAKOTA - Continue to build up over State; Aedes vexans dominant in Fargo area, Cass County. Counts of 15-20 Aedes dorsalis adults made per animal on cattle in central area. (Noetzel). WISCONSIN - Unspecified species annoying cattle grazing at night in Wood, Trempealeau and Grant Counties. Populations mostly not significant in southernmost counties; reports indicate increased activity in portions of central and northern areas. (Wis. Ins. Sur.). MICHIGAN - Adults of several species

annoying man and animals in many Lower Peninsula counties. (Myers, Kidd, Kirch, Sowerby, Wells, June 14). IOWA - Unspecified species continue to be problem. (Iowa Ins. Inf., June 17). MARYLAND - Aedes sollicitans very annoying in Somerset, Wicomico and Worcester Counties. (U. Md., Ent. Dept.).

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period June 9 - 15, a total of 105 infestations, including one of unknown origin, reported from TEXAS and 35 from NEW MEXICO. Specimens were reported from 46 counties in Texas and 8 counties in New Mexico. Screw-worm was reported for the first time this year from Motley, Cottle, Dickens, Collin, Palo Pinto, Dallas and Crane Counties, Texas. A total of 116,314,250 sterile flies was released during the period June 9 - 15. (Anim. Dis. Erad. Div.).



HORN FLY (Haematobia irritans) - MARYLAND - Increasing on dairy cattle in Frederick and Wicomico Counties. (U. Md., Ent. Dept.). MISSISSIPPI - Medium to heavy on livestock in delta area and in Hinds, Madison and Stone Counties. (Ouzts). MICHIGAN - Adults annoying to man and animals in many Lower Peninsula counties. (Myers, Kidd, Kirch, Sowerby, Wells, June 14). ILLINOIS - Varied 0-40 (average 10) per animal in northwest and 10-200 (average 88) per animal in west district. (Ill. Ins. Rpt.). IOWA - Increasing rapidly; ranged 50-75 per animal in southern and central areas. Backrubbers not available to most pastured cattle. (Iowa Ins. Inf., June 17). NORTH DAKOTA - Averaged less than

one per animal on central area cattle. (Noetzel). SOUTH DAKOTA - Averaged 65 per side of dairy and beef animals in herds checked in Yankton and Bon Homme Counties. (Hintz). KANSAS - Ranged from less than 25 to 250 per animal in northeast and east central areas. (Peters). OKLAHOMA - Increased considerably in north central area; ranged 400-1,200 per head (average 800) on cows and averaged 4,000 per head on bulls. (Okla. Coop. Sur.). UTAH - Troublesome to cattle in Myton-Duchesne area, Duchesne County. (Knowlton).

CATTLE GRUBS (Hypoderma spp.) - IOWA - "Heel fly" activity appears to be much greater this spring. (Iowa Ins. Inf., June 17). COLORADO - H. lineatum adults active in Larimer and Weld Counties. Larvae emerging from cattle on ranch near Wellington, Larimer County. (Jenkins).

FACE FLY (Musca autumnalis) - KANSAS - Few observed on and around cattle in northeast area; counts minimal. (Peters). MISSOURI - Populations light in north central and northeast areas; ranged 0-10 per animal. High herd average 3.2. (Wingo). IOWA - Building up rapidly in southern and central sections; ranged 8-10 per animal. (Iowa Ins. Inf., June 17). SOUTH DAKOTA - Averaged 4 per head in Hurley area, Turner County, on day when there was slight drizzle and temperature of 68°F. Ranged 2-5 per head on beef cattle during normal day in Bon Homme County. (Kantack, Hintz). WISCONSIN - Increasing in Bayfield County area. (Wis. Ins. Sur.). ILLINOIS - Showing some increase in numbers, especially in northwest district; ranged 0-26 (average 5.4) per face; one herd in district had 12.7 per face and 34 clustered on back per animal. Ranged 0-20 (average 3.4) per face in west district. (Ill. Ins. Rpt.). OHIO - Very light in northeast area; many cattle with no flies present June 17. (Lyon). Light throughout Wooster area, Wayne County; 1-2 per face June 20. (Treece). MARYLAND - Ranged 2-20 per head on dairy cattle checked in Frederick and Howard Counties. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - WYOMING - Becoming a problem to homeowners throughout State. (Fullerton). OKLAHOMA - Ranged up to 18-20 per Scudder grid, with average of 6. (Okla. Coop. Sur.). NORTH DAKOTA - Counts remain low over State. (N. D. Ins. Sur.). CONNECTICUT - Becoming more abundant. (Savos).

STABLE FLY (Stomoxys calcitrans) - NORTH DAKOTA - Averaged less than one per head on cattle in central area. (Noetzel). IOWA - Building up rapidly, with counts of 5-10 per animal in southern and central areas. Backrubbers not available to most pastured cattle. (Iowa Ins. Inf., June 17). ILLINOIS - Few observed in west district; none noted in northwest. (Ill. Ins. Rpt.). OKLAHOMA - Averaged 3 per head on cattle in north central area. (Okla. Coop. Sur.). MISSISSIPPI - Ranged light to medium on livestock in delta area. (Ouzts).

TABANIDS - UTAH - Annoying cattle in Myton-Duchesne area, Duchesne County. (Knowlton). WISCONSIN - Increase in activity noted. (Wis. Ins. Sur.). MICHIGAN - Adults of several species annoying man and animals in many Lower Peninsula counties. (Myers, Kidd, Kirch, Sowerby, Wells, June 14). ILLINOIS - Occasional specimen noted in west district; none observed in northwest. (Ill. Ins. Rpt.). MISSOURI - Tabanus lasiophthalmus observed feeding on briskets and undersides of cattle and undersides of horses in east central area; ranged 0-40 per animal. Higher populations observed feeding on undersides of horses. (Munson, Thomas, Wood). OKLAHOMA - Tabanus spp. and Chrysops spp. heavy, 10 per head, on horses and cattle in Noble County area. (Okla. Coop. Sur.). MISSISSIPPI - Various species medium to heavy on livestock in delta area. Controls applied. (Ouzts). ALABAMA - Unspecified species of deer flies noted in Clay and Lee Counties. (Barwood, Davis). FLORIDA - Agrostocerus megerlei collected at light on house wall at Gainesville, Alachua County, by R. P. Esser on June 13, 1963. This is first male for State collection of arthropods. Previously taken in Highlands Hammock State Park, but this is first record for Alachua County. (Fla. Coop. Sur.).

SHEEP BOT FLY (Oestrus ovis) - OHIO - Many flocks of sheep in central area observed crowding together with heads held low; mucous discharge from nostrils prevalent. (Lyon).

BLACK FLIES - VIRGINIA - Adults severe and attacking humans in Richmond. These first observed this season. (Matheny, June 11). MICHIGAN - Adults of several species annoying man and animals in many Lower Peninsula counties. (Myers, Kidd, Kirch, Sowerby, Wells, June 14). SOUTH DAKOTA - Simulium sp. considerably annoying to humans in Brookings, Brookings County. (Spawn, June 13).

BITING MIDGES - MICHIGAN - Adults of several species annoying man and animals in many Lower Peninsula counties. (Myers, Kidd, Kirch, Sowerby, Wells, June 14).

CATTLE LICE - WISCONSIN - Bovicola bovis and Haematopinus eurysternus found on cattle at Neenah, Winnebago County, June 7. (Wis. Ins. Sur.).

BLOODSUCKING CONENOSE (Triatoma sanguisuga) - OKLAHOMA - Causing concern in Oklahoma City area. (Okla. Coop. Sur.).

FLEAS (Ctenocephalides spp.) - OKLAHOMA - Causing concern to homeowners in Stillwater and Okmulgee areas. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

LARDER BEETLE (Dermestes lardarius) - OHIO - Adults observed near Urbana, Champaign County. Species unusually abundant in many counties this year. (Murray, Holdworth). IOWA - Adults and larvae reported from all sections of State. (Iowa Ins. Inf., June 17). SOUTH DAKOTA - Reported from homes in Menno, Hutchinson County, and in Yankton County. (Spawn, Kantack, June 13). Reported from numerous locations and in larger than normal numbers; infestations usually noted in upper floors in homes. (Spawn).

DARKLING BEETLES (Blapstinus spp.) - ARIZONA - Annoying to homeowners in Yuma, Phoenix and Casa Grande areas; causing no damage. (Ariz. Coop. Sur.).

WHARF BORER (Nacerdes melanura) - RHODE ISLAND - Adults appearing in house in Newport, Newport County. (Mathewson). NEW JERSEY - Now emerging and will continue through early July. (Ins.-Dis. Newsltr., June 18). OHIO - Occurred in home in Cleveland, Cuyahoga County. (Triplehorn).

OLD-HOUSE BORER (Hylotrupes bajulus) - VIRGINIA - Adult collected in Arlington. (Tarpley, Pettibone, June 14). ALABAMA - Only one specimen taken by class of 20 students in Forest Entomology class at Auburn University during spring quarter; species normally collected by each student. (Pearson).

SUBTERRANEAN TERMITES (Reticulitermes spp.) - WYOMING - Large infestation found on lower floor of pharmacy building on University of Wyoming campus. (Fronk). UTAH - R. hesperus damaging home at Provo, Utah County. (Knowlton). SOUTH DAKOTA - R. flavipes infesting home in Parker, Turner County. Apparently long established infestation with several colonies present. (Kantack, Pahl, Spawn).

CARPENTER ANTS (Camponotus spp.) - CONNECTICUT - A problem at Cornwall and Willimantic. (Savos). VIRGINIA - Winged adults of C. ferrugineus noted in Warrenton, Fauquier County (Tarpley, Tudor, June 6), and winged adults of C. pennsylvanicus noted in Monterey, Highland County (Tarpley, Shepherd, June 13). COLORADO - Camponotus sp. damaging cabin in Boulder County. (Hantsbarger).

PAVEMENT ANT (Tetramorium caespitum) - CONNECTICUT - Continues to swarm in many localities. (Savos). VIRGINIA - Winged adults common at a location in Rustburg, Campbell County. Emerging from crack in floor in home. (Rowell, Wills, June 6).

STORED-PRODUCT INSECTS

CONFUSED FLOUR BEETLE (Tribolium confusum) - ALABAMA - Noted in stored wheat, along with numerous undetermined species of rove beetles. (Wakefield).

CIGARETTE BEETLE (Lasioderma serricorne) - ALABAMA - Destroyed bag of Bermuda grass seed in Dallas County. (Alsobrook).

BENEFICIAL INSECTS

LADY BEETLES - ALABAMA - Considerable numbers of Coleomegilla maculata fuscilabris noted in gardens, roadsides and old fields in Clay County; Hippodamia convergens, Coccinella novemnotata and Coccinella sanguinea also common. (Harris, Barwood, Davis, June 14). Unspecified species range medium to heavy in cotton fields. (McQueen). ARKANSAS - Various species second most important group of predators in cotton at present. (Ark. Ins. Sur.). SOUTH DAKOTA - Larvae of unspecified species abundant in southeast; average of 92 larvae per 100 sweeps probably accounts for low aphid numbers in area. (Hintz). COLORADO - H. convergens increasing in grain fields in Montrose County where heavy aphid populations present. (Bulla). NEW MEXICO - Hippodamia spp. larvae and adults abundant in alfalfa and fruit trees infested with aphids in Bernalillo, Valencia and Dona Ana Counties. (N. M. Coop. Rpt.).

A MELYRID BEETLE (Collops quadrimaculatus) - NORTH CAROLINA - Numbers light over an entire cotton field June 3. Det. by D. A. Mount. (Savage).

GREEN LACEWINGS (Chrysopa spp.) - NEW MEXICO - Larvae and adults abundant in aphid infested ash trees in Albuquerque, Bernalillo County; also on aphid infested pecan trees in Mesilla and Pecos Valley areas. (N. M. Coop. Rpt.).

DAMSEL BUGS (Nabis spp.) - ARKANSAS - Second most important group of predators in soybeans at present. (Ark. Ins. Sur.).

BIG-EYED BUGS (Geocoris spp.) - ARKANSAS - G. punctipes most abundant predator in cotton and soybeans at present. (Ark. Ins. Sur.). ALABAMA - Unspecified species ranged medium to heavy in cotton fields. (McQueen).

ALKALI BEE (Nomia melanderi) - WASHINGTON - Adult emergence occurred June 9-12 at Sunnyside and Wapato, Yakima County. Renesting underway June 19 at Sunnyside; bees emerging rapidly in Wapato area. Many alfalfa seed growers timed first cutting of alfalfa too late for effective use of bees for pollination. (Menke).

HONEY BEE (Apis mellifera) - RHODE ISLAND - Continues to swarm statewide. (Mathewson).

A PARASITIC BOMBYLIID - OREGON - Full-grown larvae averaged 50 per square foot in Camnula pellucida egg beds in Burns area, Harney County. (Goeden).

MISCELLANEOUS INSECTS

WHITE-FRINGED BEETLES (Graphognathus spp.) - FLORIDA - Collected on dogfennel in 2 new townships in Gadsden County by I. C. Whitehead and E. L. Tipton on June 4 and 5. (Fla. Coop. Sur.).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - OHIO - Several adults collected in blacklight traps in Licking County, central area. (Walker).

PSYCHIDS (Eurukuttarus spp.) - CONNECTICUT - Attracting attention in many parts of State; present on sides of many homes. (Savos).

A FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - All stages heavy on plants, ground and in residences in Siskin, Merced County. A considerable nuisance in northern part of Sacramento, Sacramento County, and in Chico, Butte County. Infestations this year possibly heaviest in several seasons. (Cal. Coop. Rpt.).

PERIODICAL CICADAS - IOWA - Reported in Polk, Madison, Guthrie and Lucas Counties. (Iowa Ins. Inf., June 17).

EUROPEAN EARWIG (Forficula auricularia) - RHODE ISLAND - Populations normal statewide for time of year; probably heaviest in Newport County. (Mathewson, Peabody, King). UTAH - Complaints of annoyance increasing in central area localities. (Knowlton).

A MAYFLY (Hexagenia bilineata) - MISSOURI - Heavy flights, probably this species, observed at lights in northeast area. (Munson, Thomas, Wood).

A SPRINGTAIL (Hypogastrura armata) - NORTH CAROLINA - Troublesome in swimming pool in Rowan County June 6. Det. by D. L. Wray. (Holler).

SAGEBRUSH DEFOLIATOR (Aroga websteri) - NEVADA - Variable populations and damage (light to heavy) on Artemisia tridentata in Orovada and Paradise Valley areas, Humboldt County. (Bechtel, Cooney, Lundahl).

WESTERN HARVESTER ANT (Pogonomyrmex occidentalis) - COLORADO - Believed to be increasing by ranchers in Calhan-Ellicott area, El Paso County; mounds per acre 31-37. (Hantsbarger).

CORRECTIONS

CEIR 13(16):419 - A SCORPION (Vajovis boreus) should read (Vejevovis boreus).

CEIR 13(25):669 - MAP - Distribution of Alfalfa Weevil - Additional counties reported infested to July 14, 1963, should read "... June 14, 1963."

ADDITIONAL NOTES

IOWA - WOOD TICKS, probably Dermacentor variabilis, continue abundant. FLIES on cattle probably increased. Up to 100 HORN FLY (Haematobia irritans) adults per animal, but few specimens of FACE FLY (Musca autumnalis). DEER FLIES biting viciously in Allamakee County. CHIGGERS out in central area. EUROPEAN CORN BORER (Ostrinia nubilalis) continues number one pest. Every field of corn measuring 40 or more inches extended height with 75-95 percent of plants showing leaf feeding along U. S. Highway 30 from Ames to Cedar Rapids. No egg masses found, bearing out light trap evidence that flight now over. Ranged 0-55 egg masses per 100 plants in Boone County and 0-62 percent leaf feeding in 32 study fields. Leaf feeding in all parts of State, including northeast, now appearing enough to justify serious warning to farmers. Very small larvae of CORN ROOTWORMS (Diabrotica spp.) noted feeding on corn roots in Plymouth County on June 18; treatments, if necessary, will be needed week of June 24. Last instar of D. undecimpunctata undecimpunctata collected in treated corn field in Ringgold County. D. virgifera now mature and damaging roots of 30-inch corn severely at Sanborn; treatments necessary. Severe corn rootworm feeding with lodging of 16-inch corn noted at Honey Creek, Pottawattamie County. COTTONY MAPLE SCALE (Pulvinaria innumerabilis) collected on elms at Le Mars and West Liberty. Treatments recommended week of July 1. LARDER BEETLE (Dermestes lardarius) of concern in Black Hawk, Dickinson, Iowa, Linn, Mitchell, Palo Alto, Pocahontas and Shelby Counties. CARPET BEETLES and CLOTHES MOTHS abundant in State. CARPENTER ANTS (Camponotus spp.) appearing statewide. Larvae of Trogoderma glabrum abundant locally in Poweshiek County. (Iowa Ins. Inf.).

PENNSYLVANIA - ALFALFA WEEVIL (Hypera postica) collected in 5 alfalfa fields in Mercer County; this is a new county record. Only Crawford County now without record of this species. POTATO LEAFHOPPER (Empoasca fabae) light on alfalfa in northwest and averaged 1 per 4 sweeps in potatoes in Erie County. EUROPEAN CORN BORER (Ostrinia nubilalis) egg masses found on sweet corn in Lawrence County June 13. POTATO FLEA BEETLE (Epitrix cucumeris) fairly heavy in some potato fields in Erie County, especially on 6-8-inch potato plants. EUROPEAN PINE SAWFLY (Neodiprion sertifer) required treatment by several growers of Scotch pine in Erie County. Larvae of Pissodes approximatus about 50 percent grown in Erie County on stumps of Scotch pine. FOUR-LINED PLANT BUG (Poecillocapsus lineatus) heavy, practically killed some leaves of flowering plants in northwest. (Adams). STALK BORER (Papaipema nebris) quite numerous on flowering plants in Westmorland County and caused numerous stems of blackberries to wilt in same county. A LEAFHOPPER (Erythroneura sp.) heavy on European hornbeam in Westmorland County. (Udine).

NORTH CAROLINA - A WIREWORM (Melanotus communis) destroyed 15-20 percent of plantings in 2-acre field of corn in Yancey County and damaged another field. Slightly damaged 2 fields in Macon County with severe damage confined to one area of both fields; 1.5 acres in 7-acre field and one-third of 4-acre field killed in Clay County; 1.5 acres of 8-acre field largely destroyed in Macon County. Number of other fields also affected in Macon County. Wireworms also problem on corn in Jackson and Haywood Counties. Damage appeared more prevalent in lower portions of fields. Wireworm larvae still abundant on cotton; however, most damage occurred earlier. M. communis apparently responsible for injury to 1-acre tomato field earlier in Jackson County. Most of first plants badly injured by wireworms tunnelling in stems. Larvae of M. communis abundant in soil but not causing apparent damage presently. M. communis apparently injured small field of tobacco very severely earlier in June in Yancey County; grower reset many plants to get stand. Several of less vigorous plants examined showed severe injury to roots. Larvae of M. communis abundant in soil but apparently not injuring plants presently. This species caused resetting of about half of 0.6-acre tobacco field in Madison County. (Mount). PLUM CURCULIO (Conotrachelus nenuphar) second generation emerged in sand hills area of State; first observed June 17. (Peach Ltr.). Adult LARGER ELM LEAF BEETLE (Monocesta coryli) defoliating elms in Chatham County. (Snipes, Axtell). FACE FLY (Musca autumnalis) ranged 10-12 per animal in cattle herd in Clay County; collected adults determined this species. (Mount).

Weather of the week ending June 24 (continued from page 700)

higher each afternoon. In the northern Rockies, early morning temperatures dropped to the 30's and 40's. Gusty southerly winds brought higher temperatures, increasing humidity and scattered thunderstorms to the Great Plains from the Gulf of Mexico to the Red River Valley of the North. Rainfall during the week exceeded 2 inches over parts of Arkansas, southern Louisiana, Mississippi, Alabama, Georgia and South Carolina. Numerous localities in those States received more than 4 inches. One of the largest totals, 10.78 inches, fell at Charleston, South Carolina. Most of the rest of the Nation received less than 1 inch of rain during the week. Most parts of the Northern Prairies, the Rocky Mountains, and westward received less than one-half inch. Many stations in California (except the extreme north), Arizona, southern New Mexico, and the extreme western part of Texas received no rain.

Temperatures averaged slightly above normal over the northern Rockies, the Florida Peninsula and at a few localities elsewhere. Below normal average temperatures occurred over the southern High Plains, the Northern Prairies, and eastward to extreme eastern Massachusetts. Temperature departures ranged from +4° at Orlando, Florida, to -9° at Huntington, West Virginia. (Summary supplied by U. S. Weather Bureau).

LIGHT TRAP COLLECTIONS

	Pseud. unip.	Agrot. ips.	Perid. saucia	Prod. ornith.	Ostrin. nubil.	Protoparce quin.	Heliothis sexta	zeae	vires.
ARKANSAS									
Hope 6/13-19		4							51
Morrilton 6/13-19	30	17	14						133
Kelso 6/13-19	2								7
Fayetteville 6/13-19									70
FLORIDA									
Gainesville 6/19				2					
ILLINOIS (County)									
Champaign 6/14-20	344	18		10			1		
INDIANA (Counties)									
La Porte 6/11-18	6	2	4	2			1		
Lawrence 6/11-17	19	11	34	8		1	1		2
Tippecanoe 6/13-19	28	2	7	6	1				
Vanderburgh 6/12-18	13	8	45	2					
Jasper 6/14-18	16		8	1	41				
KANSAS									
Garden City 6/12, 17	8	3	9	3					4
Hayes 6/12, 14, 17	45	28	22	10					
Manhattan 6/15-21	388	65	221	129	1				3
Mound Valley 6/13, 17	8	7	9	9	1				2
Wathena 6/11, 13, 15-16	37	6	13	11	4				
MARYLAND									
Centreville 6/12-18	14	34	19		12	7			7
MICHIGAN (Counties)									
Livingston 6/4-10			4						
Kent 6/4-10			4						
Jackson 6/4-10			2						
Wayne 6/4-10			1						
*Monroe 6/11-17	10								
Lenawee 6/11-17	3								
Washtenaw 6/11-17	2								
*Macomb 6/11-17	8								
Jackson 6/11-17	7				5				
Livingston 6/11-17	5				3				
Kent 6/11-17	14								
Schoolcraft 6/11-17	2								
MISSISSIPPI									
*Stoneville 6/14-20	24	22	24	99			12	267	14
NEBRASKA									
Bushnell 6/5-7	3	1	14						
Kearney 6/4-7	1	1	6		45				
Lincoln 6/13-19	248	79	33	8	46				
North Platte 6/5-11	24	17	95	4	310	6	2	13	12
North Platte 6/12-18	42	29	37	3	216			1	11
Ogallala 6/5-7	11	4	15		1				
Scotts Bluff Expt. Sta. 6/11-17	1	3	27					42	1

* Two traps - Monroe, Macomb and Stoneville.
(continued on page 735)

Light Trap Collections (Continued)

	Pseud. unip.	Agrot. ips.	Perid. saucia	Prod. ornith.	Ostrin. nubil.	Protoparce quin.	Heliothis sexta	zeae	vires.
NORTH DAKOTA									
Fargo 6/15-21	18	1		2			13		
Linton 6/15-21	59	2		7			6		
Williston 6/15-21	24	13		14					
McLeod 6/15-21	3			1			93		
Walhalla 6/15-21	3						1		
Bowman 6/15-21	2	5		8					
Bismark 6/15-21	18	6		6					
Bottineau 6/15-21	25			9					
Trotters 6/15-21	3								
OHIO									
Wooster 6/14-20	47	8					14		
Ripley 6/10-17	2						7		
Marietta 6/10-17	22	14					3	1	
Hoytville 6/10-17	12						14		
Castalia 6/10-17							3		
OREGON (daily average)									
Willamette Valley 6/17-21		10		41					
SOUTH CAROLINA									
Charleston 6/21-23		4		4	29		4	6	
TEXAS									
Waco 6/15-21	48	279		59	84			912	
*Brownsville 6/13-21	1	196		104	111		118	474	7,015
WISCONSIN									
Platville 6/10-17	55	1					12		
Janesville 6/11-17	193						7		
Mazomanie 6/11-18	9	10					19		
Middleton 6/13-19	8	7		4			2		
Madison 6/13-19	27	17		6			2		
De Forest 6/11-17	26	6		5					
Arlington 6/11-17	47						8		
Nenno 6/11-17	45						3		
Theresa 6/11-17	75						7		
Wayne 6/11-17	45						5		
Waldo 6/11-17	9						1		
Cedar Grove 6/11-17	16	2							
WYOMING									
Cheyenne 5/26-6/3	3	3		9					

Additional light trap collections

NORTH DAKOTA (Trotters 6/15-21) Loxostege sticticalis - 9. (Northwood 6/15-21) L. sticticalis - 76. (Bottineau 6/15-21) L. sticticalis - 2,000.

TEXAS (*Brownsville 6/13-21) Pectinophora gossypiella - 41. (Waco 6/15-21) P. gossypiella - 2.

* Six traps - Brownsville.

SOME OF THE MORE IMPORTANT PESTS FOR 1962 1/

FLA. 2/	A chinch bug (St. August- tine grass)	Florida red scale	Citrus rust mite	Serpentine leaf miners	Spider mites on citrus	Corn ear- worm	Southern armyworm	Wireworms	Fall armyworm	Cabbage looper
KANS. 2/	Corn root- worms	Hessian fly	Black cut- worm	Corn ear- worm	Spring cankerworm	Fall web- worm	Wheat curl mite	Sod webworm	Elm leaf beetle	Smaller European elm bark beetle
	Mosquitoes	Horn fly	Stable fly	House fly	Face fly	Termites	Chiggers	Cock- roaches	Hackberry psyllids	Stored- product insects
N. C.	Alfalfa weevil	Boll weevil	Heliothis spp.	Eastern subter- ranean termite	House fly	Mosquitoes	Rice weevil	Southern corn root- worm	Southern pine beetle	Wireworms (Conoderus spp.)
R. I. 3/	Colorado potato beetle	White-pine weevil	Canker- worms et al.	Japanese beetle and Asiatic garden beetle	Gypsy moth	Eastern subter- ranean termite	Alfalfa weevil	American dog tick	Smaller European elm bark beetle	Face fly
WYO.	Alfalfa weevil	Army cutworm	Wireworms (Limoni- spp.)	Pea aphid	Potato psyllid	Beet leaf- hopper	Lygus bugs (Lygus spp.)	Striped flea beetle	Alfalfa looper	Mexican bean beetle
	Common and Northern cattle grubs	Cattle lice (Solenoptes capillatus), (Haematopinus eurysternus)	Sheep ked	Subter- ranean termite (Reticuli- termes sp., prob. hes- perus)	Mosquitoes	Boxelder bug	House fly	Horn fly	Stable fly	Horse flies (Tabanus spp.)

1/ Two lists are tabulated for Kansas and Wyoming. The first list is for "Crop and Forest Pests" and the second for "Man, Animal and Household Pests."

2/ Order of ranking does not necessarily indicate order of importance.

3/ In the compilation of this list, primary consideration was given to the intrinsic capacity of the organism to inflict damage, whether or not such damage was done in 1962.

NOTES ON SWEEP NETS*

W. P. Boyer, Survey Entomologist
University of Arkansas

Insect collection with a sweep net is made easier by the use of a 7-dram plastic capsule vial attached to the end of the sweep net bag. In cases in which insects are to be collected for accurate counting or preserving, this adaptation eliminates the use of a killing jar and the transfer of insects from the bag to the killing jar and from killing jar to other container. (Figure 1).

This adaptation was designed by Dr. F. D. Miner, Entomologist, University of Arkansas.

To make this adaptation, the end of the bag is cut off being careful that the proper length of the tip end of the tapered bag is removed. This permits the cloth to fit over the plastic vial cap. Glue is used to help hold the vial cap in place. Fine nylon string is then wrapped firmly around the cloth and vial cap, and glue is applied to the string. After the glue is dry, a hole is cut in the vial cap removing all of the top of the cap and leaving the rim of the cap around the top of the vial. (The hole should not be cut before wrapping and gluing in order to keep the vial and cap rigid when wrapping.) The vial can then be removed and replaced as desired.

When surveying and/or collecting, the surveyor has a supply of vials containing alcohol or other preservative. With an empty vial attached to the bag, the surveyor makes the desired number of sweeps, works the insects down into the vial, and removes the vial from the bag. Escape of insects can be avoided by holding the thumb over the vial. Preservative from a filled vial is emptied into the vial with the collection and the vial just emptied is inserted into the bag. This method has been satisfactory except, of course, for large species.

The five-inch net (Figure 2), also designed by Dr. F. D. Miner, has proved to be useful in sweeping alfalfa. When sweeping heavy foliage, as alfalfa, this net penetrates the foliage much better than does the standard 15-inch net. Very large numbers of insects are often taken by a sweep net in alfalfa. This results in large numbers to count when the surveyor makes the proper number of sweeps to provide field coverage. Better penetration of foliage and greater field coverage with countable numbers of insects results in more accurate sampling with the smaller net.

The financial outlay for sweep net bags often becomes expensive. The use of nylon cord in a double strand, as shown in Figure 2, adds to the life of the bag. This method is also used with the standard 15-inch net with a standard bag looped around the steel ring. Varnish on the cloth loop also adds to the life of bags. In some cases both nylon cord and varnish are used.

* Published with approval of Director of Arkansas Agricultural Experiment Station.



Figure 1



Figure 2

UNITED STATES DEPARTMENT OF AGRICULTURE

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